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CORRECTION:  
On page 39 of our April 22 issue, we incorrectly labeled the top product photo. It should be the RM417 from Chenbro.

# Supermicro Meets Intel's Sandy Bridge

New Products Can Be Customized To Meet Any Customer's Needs

by Nathan Lake  
• • •

**NEED A NEW SERVER PLATFORM** that you can configure to meet your enterprise's needs? Super Micro Computer's new UP (uni-processor) platforms with Intel's Cougar Point Essential chipset include Intel's next-generation technology.

And, as with other Supermicro servers, you can customize the products or even plug in your own hardware.

"Supermicro's advanced server/storage architecture and broad Sandy Bridge UP system product selection are application-optimized to satisfy all IT requirements," says John Nguyen, product manager for Supermicro's UP Server Solutions. "Together with our valued channel partners, we believe these latest 4/2-Core UP solutions will help IT managers in Global Fortune 500, government, and enterprises seeking higher performance and efficiency to realize better results with fewer resources to optimize their operations."

Newest Technology Innovations

With the Supermicro X9SCL-F and X9SCM-F-based servers, you'll be able to add functionality for today's newest technology innovations, including 6Gbps SATA. All models feature IPMI (Intelligent Platform Management Interface) on the dedicated LAN ports, which are dual Gigabyte Ethernet ports. Hardware buyers will also like the DOM (Disk On Module) support for boot-capable storage devices and UEFI support. In terms of other I/O panel connections, you'll find one analog DB15 output, one COM/Serial port, two PS/2 ports, and two rear USB ports. Overall, there are six USB 2.0 headers and one Type-A header on the server board.

Supermicro's high-performance, low-TCO SuperServer 1017C-TF is built with Intel's C202 chipset and is designed to support Intel's next-generation Xeon product family (code-named Sandy Bridge). There are four UDIMM

DDR3 slots that can handle up to 32GB of 1333/1066 ECC memory. The SYS-1017C features a 330W power supply that received 80Plus' Gold rating.

Supermicro also offers a low-power, high-efficiency model called the SuperServer 5017C-LF, which is built with a motherboard that supports Intel's Sandy Bridge DT processors that run up to 45W. To keep power usage to a minimum, Supermicro installs a 200W

Additional Storage

For entry-level customers, SMBs, and data centers looking for additional storage, Supermicro offers 1U dedicated servers. The SuperServer 5017C-TF provides two hot-swap 3.5-inch bays that support 6Gbps SATA3 and 3Gbps SATA2 speeds. A PCI-E x8 expansion slot is provided for those who wish to install an add-on card to the server. This low-cost storage/file server is perfect for businesses with cloud and virtualization needs, file and storage requirements, and automation and SOHO needs.

If you need more drive bays for storage, the SuperServer 5017C-MTF features four hot-swap 3.5-inch bays that support 3Gbps SATA speeds. The increased storage capability makes it ideal for applications such as hosting and application delivery, cloud and clustering, and business storage. The SuperServer 5017C-MTF supports Intel's Sandy Bridge-DT E3-1200 Series Xeons, which operate at speeds as high as 3.5GHz (95W TDP). Supermicro notes that all options will be offered as barebones systems, but you can invest in a fully assembled system if you so choose.

One of the top-end servers in the new line is the SuperServer 5017C-MTRF. It supports Intel's Sandy Bridge-DT E3-1200 Series Xeon processors and offers four hot-swap 3.5-inch bays. The server is designed for mission-critical installations such as gateway and provisioning servers or application and data serving. The high-performance parts are powered by a redundant (1+1) 400W 80Plus Gold power supply. Similar to the other models, the 5017C-MTRF features four DDR3 UDIMM slots for support of up to 32GB of 1333/1066 ECC memory.

The leading-edge technology found in Supermicro's new SuperServers provide you the performance you need, while still offering the flexibility

to suit your existing hardware or your custom parts of choice, so you're not locked into a particular configuration or brand of parts. The feature-rich servers are also ideal for enterprises looking for a server that can meet both their current and future hardware needs.


**Contact:**  
(408) 503-8000 | www.supermicro.com

## SUPERMICRO® SuperServers

A new lineup of Supermicro SuperServers features Intel's newest generation of Sandy Bridge technology.

**1017C-TF:**   
A high-performance, low-TCO mainstream server

**5017C-LF:**   
A low power, high-efficiency server

**5017C-MF:**   
An entry-level, compact, all-purpose server

**5017C-TF:**   
A low-cost storage/file server

**5017C-MTF/ MTRF:**   
A server that meets storage and cloud system requirements with optional power redundancy

**Mid-Tower:**   
Systems designed for SMB/home server requirements

low-noise power supply with power factor control. One 3.5-inch or two 2.5-inch SATA drives can be installed, and the board supports RAID configurations of the two 2.5-inch drives. The SuperServer 5017C-LF is a good fit for enterprises with applications such as in-house processing, virtual media, data delivery module, telecommunications, or automation.





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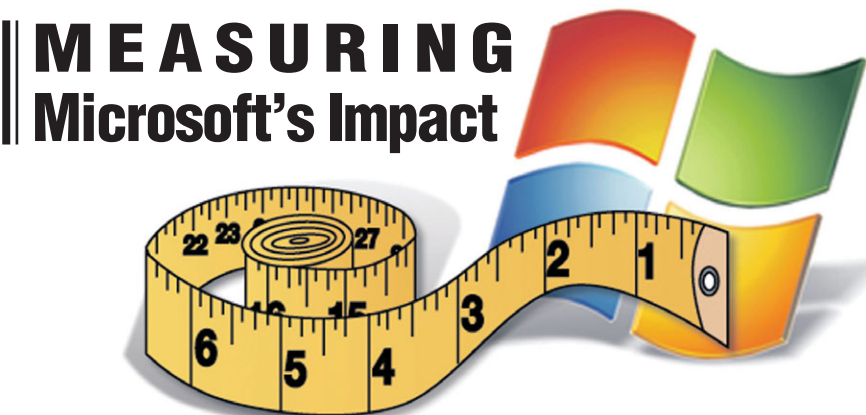
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STATS & FACTS

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There's little doubt that Microsoft has a considerable impact on the worldwide economy. But how much of an impact, and in what ways? A new report by IDC, commissioned by Microsoft, sheds some light.

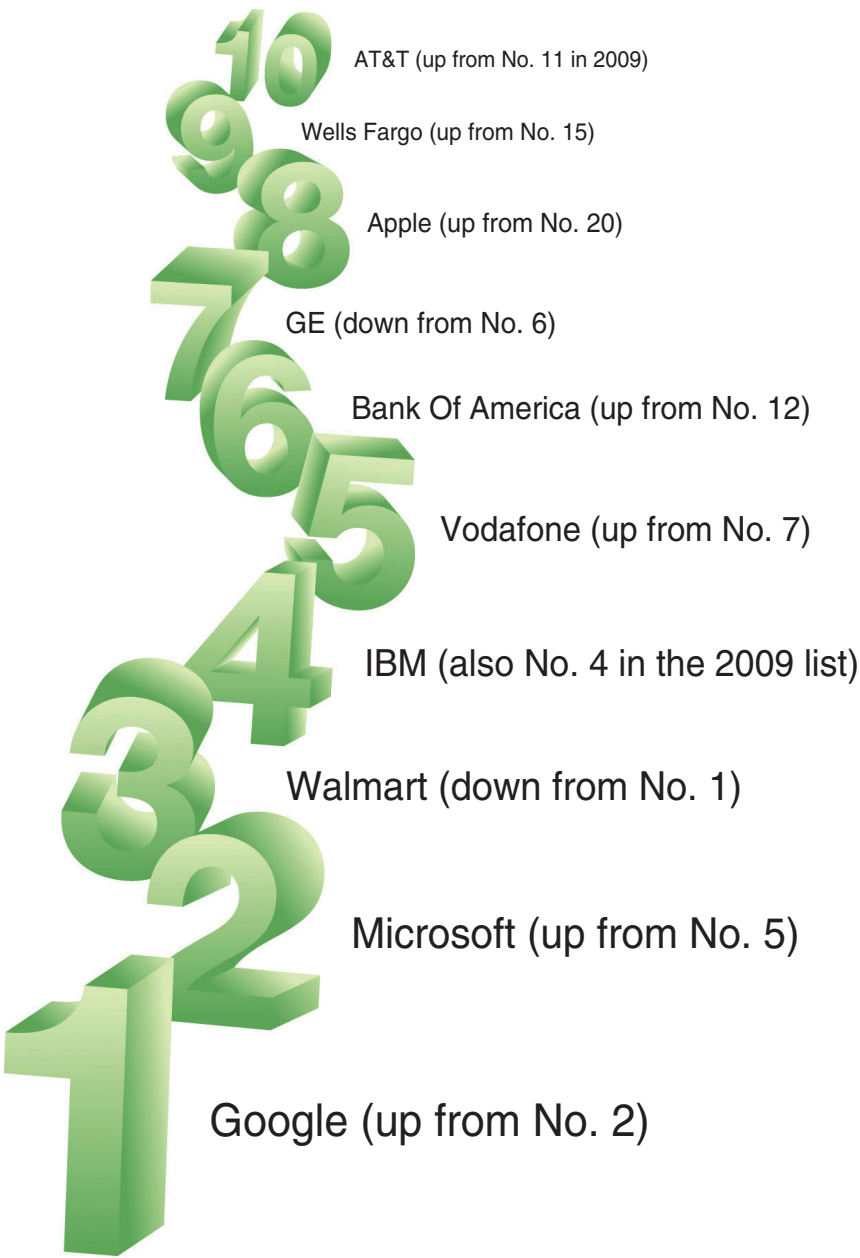
- **\$580 billion:** The product and service revenue generated by the Microsoft Partner Network in 2010. In 2009, \$537 billion in revenue was generated; in 2007, that number was \$475 billion.
- **\$8.70:** Amount of revenue Microsoft Partner Network members generated for every \$1 of revenue Microsoft made last year.
- **68% and 28%:** Percentage of larger deals and more revenue per employee generated, respectively, from Microsoft partners that invested in becoming certified in more difficult or a greater number of competencies.
- **\$800 billion:** The worldwide new business revenues expected from cloud computing over the next three years.

The World's Most Valuable Brands

A lot can be said about having the right brand name. And when it comes to tech companies, several are leading the way in making a good name for themselves, according to a recent list of the top 500 global brands by BrandFinance.



BrandFinance's Top 10 Brands



Tech Support Teams Short On Personnel

As opposed to an ideal 65:1 mean ratio of internal end users to technical support employees, CIOs polled in a recent survey from Robert Half Technology indicate the ratio currently stands at 112:1. On average, the 1,400 CIOs from companies with 100 employees or more polled indicate their technical support teams are 42% smaller than what they'd prefer. Robert Half Technology says those results are similar to a 2007 survey that indicated teams were 40% smaller than ideal. The survey shows that smaller firms with 100 to 249 employees are farthest from the ideal ratio. Midsized companies (250 to 499 employees) are the closest. Companies are making upgrades and investing in new technologies, contributing to the inability of tech support workers to keep pace with end-user demands. One solution to prevent end-user requests from accumulating is to bring in additional help desk professionals during peak workload periods, says John Reed, Robert Half Technology executive director.

Study: IPv6 Adoption Sluggish Despite Dwindling IPv4 Supply

According to a new report from Arbor Networks, less than 0.3% of Internet traffic can be attributed to IPv6 addresses, which account for just 1% of IP addresses in use. The statistics are somewhat surprising, given that only 5% of IPv4 addresses are still available, and those are expected to be in use by the middle of next year. According to the study, a number of factors contribute to the sluggish IPv6 adoption, including lack of economic incentives, technical and design hurdles, and a lack of available IPv6 content. The Obama Administration has called for IPv6 adoption within government IT networks by 2012, but the study says private infrastructures largely have not set similar deadlines.

Lawson Accepts \$2 Billion Takeover Bid

Six weeks after Infor, via its GGC Software Holdings affiliate, first proposed an unsolicited takeover bid of rival ERP (enterprise resource planning) software company Lawson, the latter company announced that it has accepted the \$2 billion offer. The merger will put the combined company in third place behind ERP providers SAP and Oracle, and Infor says combining its products with Lawson's will give the merged company solid footing in a number of growing vertical markets, including the health-care and government sectors. Executives at both companies see their products as being "complementary, not overlapping," and expect to use the strength of both companies' products to grow in the ERP market.

Microsoft, Nokia Finalize Windows Phone 7 Partnership

Microsoft and Nokia announced that the specifics of their Windows Phone 7-based partnership have been finalized. According to the details, Nokia will provide mapping, navigation, and other location-based services for Windows Phone 7. Microsoft will collect royalties from Nokia once Windows

Phone 7 devices are available in stores, while Nokia will be paid for its intellectual property. The companies say they expect Windows Phone 7 devices to be available by 2012, and they also plan to create a Nokia-branded app store.

IDC: Consumers Not Using Personal Health Records

IDC Health Insights reports that consumers are reluctant to adopt PHRs (personal health records). The online records track a person's healthcare information, helping to manage their health via the Web. The majority of the about 1,200 respondents to the "2011 Connected Health Consumer Survey" say they are not using a PHR because they have yet to be exposed to such a service. Other reasons listed why respondents were unlikely to use a PHR include concerns with Internet safety, lack of perceived value, and wasted time setting up and maintaining the records. A mere 7% of survey respondents indicate they have used a PHR, although 28% say would use a PHR system if their physician recommended it.

Hacking Leading Cause Of Data Breach

In previous years, malicious insiders had been the leading cause of data breaches. But this year, purposely



hacking has taken over the top spot. In addition, the Identity Theft Resource Center announced that successful attacks against businesses have been on the rise, now accounting for half of all data breaches. The ITRC says that

from Jan. 1 to April 5 of this year, a total of 9.5 million records were exposed as a result of 130 breaches. About 37% of the breaches resulted from malicious attacks, double the 2010 rate of 17%; about 12% of the breaches were due to malicious insiders.

Global Semiconductor Sales See Great Growth

Total global semiconductor revenue reached \$299.4 billion in 2010, for a year-over-year growth of \$70.7 billion, according to a study by Gartner. This 30.9% increase is a sign that the economy is beginning to recover as more money is spent on products that use semiconductors, Gartner says. Intel came in at No. 1 in terms of revenue with almost \$42 billion, followed by Samsung Electronics, Toshiba, Texas Instruments, and STMicroelectronics. The top 25 companies were responsible for about 70% of the total revenue.

CenturyLink Acquires Savvis

Cloud provider and hosting operator Savvis will become a part of CenturyLink in a cash and stock deal worth \$3.2 billion. About \$700 million of that will be used to assume and refinance existing debt of Savvis. The announcement comes in light of improved year-over-year first quarter earnings for Savvis. The company had first quarter revenue of \$257 million, up from \$216.6 million a year ago. That amounted to a first-quarter net loss of \$1.8 million, or 3 cents per share, compared to a loss of 21 cents per share last year. The acquisition of Savvis will benefit CenturyLink's managed hosting and cloud services business in addition to expanding the company's global presence.



■ Number Of Data Breaches Up Significantly

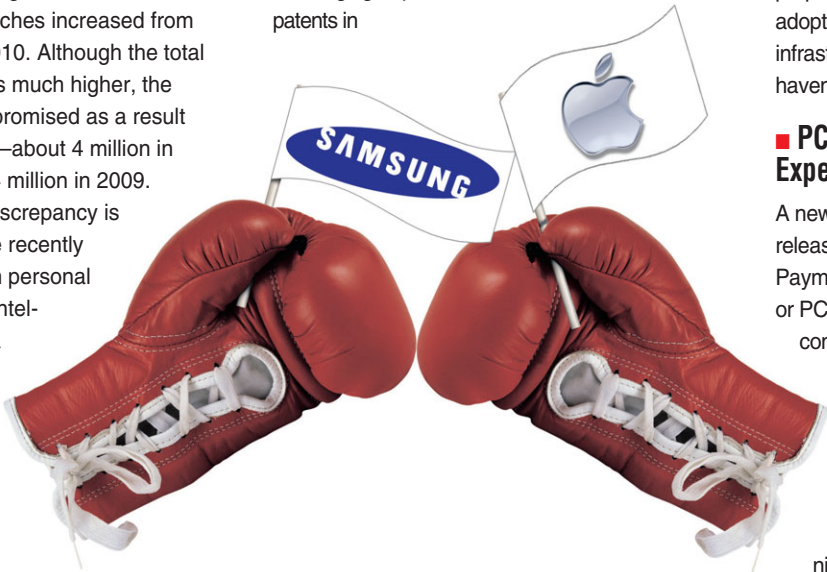
According to a report from the Verizon RISK team, in conjunction with the U.S. Secret Service and the Dutch High Tech Crime Unit, the number of data breaches increased from 141 in 2009 to 760 in 2010. Although the total number of breaches was much higher, the number of records compromised as a result was substantially down—about 4 million in 2010 as opposed to 144 million in 2009. One possibility for the discrepancy is that cybercriminals have recently shifted their targets from personal financial information to intellectual property. Thus, a single record may pay off more than several records did in the past.

■ Spending On BI, Performance Analytics Jumps

Worldwide spending on business intelligence and analytics jumped more than 13% last year. According to Gartner, global spending in those areas reached \$10.5 billion last year, reflecting continued strength in BI and analytics spending, in spite of the global economic downturn. During 2009, while enterprise expenditures on software dropped somewhat, BI spending rose slightly. A Gartner spokesperson says that last year's growth was largely because of an increase in the number of existing users adding licenses, rather than purchases by new users. Improved economic conditions last year—coupled with major product releases from IBM, Oracle, and others—drove demand, Gartner says.

■ Samsung Countersues Apple

After Apple sued Samsung for alleged copying of its iOS devices in Samsung's Galaxy smartphone and tablet, Samsung countersued, accusing Apple of infringing its patents. The patents in



question include those pertaining to reducing data transmission errors in mobile networks, tethering (using a smartphone's data plan to connect a PC to the Internet), and power consumption reduction technology related to HSPA (High Speed Packet Access) networks. The alleged patent infringements were filed in multiple cities, including five in Seoul, two in Tokyo, and three in Mannheim, Germany.

■ McAfee Report Shows Lack Of Infrastructure Protection

Critical infrastructure companies are increasingly victims of cyberattacks. The report by McAfee, "In the Dark: Crucial Industries Confront Cyberattacks," found that 80% of the 200 IT security executives surveyed say they've dealt

with a large-scale denial of service attack, and 85% have had network intrusions. That statistic piggybacks on the 40% of executives that claim their industry's vulnerability has increased; similarly, about 30% believe their business is not well prepared for cyberattacks. The report shows that adoptions of smart grids are on the rise, but the infrastructures that manage these grid systems haven't enabled proper security.

■ PCI-Compliant Organizations Experience Fewer Data Breaches

A new study by Imperva and Ponemon Institute released new statistics on the impact of the Payment Card Industry Data Security Standard, or PCI DSS. About 64% of PCI DSS-compliant companies say they have not been victims of a credit data breach in the past two years. In contrast, among non-compliant companies, 38% report that they have not experienced a credit card data breach during the same two-year period. Additional survey data reveals that companies are cynical about the positive effect of PCI DSS: 59% don't think the standard helps them improve security, and 67% of regulated companies are not in full compliance.

■ Google Results Fall Short Of Forecasts

Google reported first-quarter net income of \$2.3 billion, up 17% from a year ago, and revenue of \$8.6 billion, up 27%, but that still fell short of Wall Street's expectations. Analysts say Google's spending during the quarter hurt its results. The company hired almost 2,000 employees and spent \$890 million on data centers and other infrastructure projects during the quarter. New CEO Larry Page said he plans to invest heavily

in product development and has reorganized the company's management in order to speed decision making. The number of paid clicks on Google's ads rose 18% during the quarter, and the cost per ad increased by 8%.

■ AMD Profits Are Up

First-quarter results are in from microprocessor and graphics chipmaker AMD. GAAP revenue and net income were up on a year-over-year basis, although the latter actually dipped slightly when calculated on a non-GAAP basis. Earnings weighed in at 68 cents per share GAAP (8 cents/share non-GAAP) on net income of \$510 million GAAP (\$56 million non-GAAP). Revenue was \$1.61 billion, with operating income falling to \$54 million GAAP (\$92 million non-GAAP). AMD credited its new Fusion APUs (accelerated processing units), which are traditional CPUs with graphics acceleration built-in, for the boost in its numbers this past quarter.



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PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up to date with what's new on the market and to find products you need.

Manufacturers:  
Do you have a new product that data center/IT managers would be interested in learning about?  
Send your press release or product information to [press@processor.com](mailto:press@processor.com).

PHYSICAL INFRASTRUCTURE

■ Daat Research CoolitDC

Daat Research released CoolitDC, a program for measuring and modeling the dynamics of airflow in the data center. CoolitDC can handle complex facility shapes, raised floors, drop ceilings, room partitions, support columns, under-floor pipes, cables and obstructions, and furniture and other infrastructure components. It can also account for room ventilation components, including fans and ducts.

■ PDUs Direct 30-Amp Basic & Metered PDUs

PDUs Direct is expanding the number of Server Technology power distribution units it offers. In addition to the



20-amp units PDUs Direct offers, it now will sell select 30-amp Basic and Metered PDUs. All PDUs Direct products are steel-encased with high-quality industrial-grade outlets. They come in a variety of outlet configurations; are offered in horizontal or vertical designs with 110V, 208V, or 208V three-phase power; and include power input cordage for no extra charge. PDUs Direct focuses on offering premium power distribution without the premium price, with list prices adjusted to be as competitive as possible. PDUsDirect.com, which focuses exclusively on server cabinet PDUs, makes it easy for customers to quickly find and easily purchase the product configurations they require. For more on PDUs Direct, see page 9. For more on its new offerings, see page 17.

■ Perle Systems Fiber To Fiber Media Converters

Perle Systems introduced more than 100 new multimode-to-single-mode Fiber to Fiber Media Converters, which let users extend multimode-to-single-mode or multimode-to-multimode fiber connections across distances of up to 160 kilometers. Perle's Fiber to Fiber Media Converters ensure strong signals thanks to the built-in Ethernet transceivers that regenerate the received signal and pass it along to the next transceiver port.

■ Raritan Dominion KX II-101 V2

The Dominion KX II-101 V2 from Raritan is a KVM over IP device small enough to fit in the palm of your hand. The KX II-101 V2 (\$479) has a compact, single-port design and provides secure, unblocked BIOS-level access to a remote server, along with Absolute Mouse Synchronization and Virtual Media technologies.

NETWORKING & VPN

■ Avail Now VMware View For iPad

Avail Now announced VMware View for iPad, a virtual desktop infrastructure targeted toward small and mid-sized businesses using iPads. Users in sales departments and other areas can gain access to reports, data, presentations, and quotes on their office computer via the virtual iPad desktop. Avail Now's offering connects the iPad to the PC via a VPN tunnel, so it doesn't suffer from the lag and security problems of past virtual desktop products.

■ Cisco Borderless Networks

Cisco announced the addition of several solutions to its Borderless Networks series of products, which includes routing, switching, and WAN optimization architectures, among others. Cisco's Identity Services Engine helps enforce network security policies, Cisco Prime for Enterprise improves IT management of networks and network services, and Cisco Medianet and Video Conferencing optimizes video delivery by embedding media capabilities into network elements and endpoints.

■ Citrix Systems NetScaler SDX

Citrix Systems released NetScaler SDX, a virtualized networking platform the company says serves as a front door to virtual data centers and cloud environments. With the platform, users can run numerous virtual NetScaler instances on one physical appliance with multiservice and multitenant support. The platform lets users move from a traditional application delivery approach to a service-delivery approach when adopting cloud computing.

■ Dell KACE K1000 Management Appliance

Dell KACE announced the K1000 Management Appliance, which is designed to help organizations save time and money by simplifying software license compliance. It helps companies address licensing issues by harvesting and reallocating unused or underutilized software assets, which can help protect against litigation risks and equip customers with tools to avoid license violations. The appliance helps users track software installation statistics, automatically distribute and patch software, and run reports on software usage. The Dell KACE 1000 appliance comes with new Dell Warranty integration to help customers better manage their warranties on Dell PCs and servers.

■ Exele Information Systems TopView 6.9.3

Exele Information Systems announced several enhancements to its TopView software suite with the release of TopView 6.9.3, including alarm notification message templates, missing tag configuration capabilities, and remote viewer capabilities. TopView's notification message templates allow users to tailor the detailed notification message content that will be assigned to individual TopView alarms and define which users and devices will receive full-length messages or shortened notifications.

■ Fluke Networks AirCheck Wi-Fi Tester Version 1.2

Fluke Networks released an update to its AirCheck Wi-Fi Tester, a handheld appliance used to troubleshoot complex wireless local area networks. Version 1.2 of the device lets technicians and engineers identify any client, device, or access point on a wireless network. The company says this capability makes the AirCheck tester the only handheld tool on the market that combines the WLAN performance information and complete WLAN detection capabilities essential for quickly troubleshooting and securing a wireless network. The new version can locate all wireless clients and access client details, helping users identify misbehaving or unauthorized clients.

■ Novell Identity Manager 4 Standard Edition

Novell released its Identity Manager 4 Standard Edition framework that manages identities across physical, virtual, and cloud environments. Primary features include automated user provisioning, Microsoft SharePoint and SAP ERP system integration, and secure cloud connections to Salesforce.com and GoogleApps. Identity Manager 4 Standard Edition is part of the complete Identity Manager 4 product series.

■ VMTurbo Appliance

VMTurbo announced enhancements to its virtualization software appliance that make it easier to manage a virtualized data center, the company says. New features give customers the ability to generate, slice, and view information in order to create custom groups and logins, organize reports, and plan for the future, among other tasks. Seamless integration with DRS lets VMTurbo's software sync with the VMware hypervisor in real time.

■ VMware Cloud Foundry

VMware announced Cloud Foundry, an open PaaS (platform-as-a-service) offering that is designed specifically for cloud computing environments and delivered as a service from enterprise data centers and public cloud service providers. Cloud Foundry streamlines the development, delivery, and operations of modern applications, making it easier for developers to deploy, run, and scale their applications in cloud environments.

STORAGE

■ Addonics CF/CFast Drive

Addonics' CF/CFast Drive makes it possible to create an SSD with a high-speed SATA interface via the use of a CF card or high-speed CFast card. Prices for the four new models range from \$135 to \$199. The CF/CFast Drive can be installed in a 5.25-inch drive desktop bay or in rack-mounted systems accepting up to six CF/CFast media configurable as independent drives or as a RAID group.

■ American Megatrends StorTrends 3400i

The StorTrends 3400i SAN storage appliance from American Megatrends features dual controllers and is the first device to feature the 64-bit version of StorTrends iTX network storage software. The 3U device supports Intel quad-core processors and has 16 drive bays. It's suitable for mission-critical apps, AMI says, and it's scalable to 256TB.

■ Axis Communications & Iomega StorCenter

Iomega announced a partnership with Axis Communications that combines Iomega's NAS StorCenter storage devices with Axis Communications' AXIS Video Hosting System. This lets users store HD video on local drives while simultaneously sending video to an offsite location via the cloud. Iomega's StorCenter products use RAID-protected storage.

■ Crossroads Systems Products Featuring Linear Tape File System

Crossroads Systems will roll out a new line of products utilizing LTFS (Linear Tape File System) technology to help SMBs achieve reliable long-term data

preservation. Users can write files directly to tape and access archived data with greater mobility through LTFS technology. The digital archive also offers granular policies, encryption, replication, and monitoring capabilities.

■ Datawatch Monarch Enterprise Server

Datawatch unveiled the newest version of its Monarch Enterprise Server for report distribution, analytics, and storage. Updated features include a customizable interface, configurable storage compression, and simplified report administration. Report output capabilities offer secure access to statements, invoices, log files, HTML, and more. In addition, users can view data sets; append online notes; and export to PDF files, Excel sheets, or a multidimensional data cube.

■ Kroll Ontrack Ontrack Data Recovery

Kroll Ontrack has announced that its Ontrack Data Recovery service now offers data recovery protection for Oracle databases, virtual environments, and ASM file systems. Kroll Ontrack says that Ontrack Data Recovery is able to retrieve critical information from Oracle systems threatened by hardware failure, deleted database entries, and internal database corruption.

■ Netlist mSATA mini SSD & mSATA slim SSD

Netlist has added two new models to its Embedded Flash line of products. The mSATA mini SSD features up to 32GB of storage with 64MB DRAM cache, and the mSATA slim SSD has up to 128GB of storage with 64MB DRAM cache.

■ Pivot3 vBank Appliance

Pivot3 introduced the Pivot3 vBank Appliance, which the company says addresses the growing influence of IT in video surveillance environments. In addition to bundling VMware VSphere, VMware vMotion, and VMware vCenter Server technologies that aim to simplify management, the vBank Appliance adds compute resources that support additional virtual servers and solid-state drives to enhance storage performance for general business applications.

■ Promise Technology SANLink

Promise Technology's new SANLink is an adapter that provides high-speed SAN links by bringing together Intel's 10Gbps Thunderbolt I/O technology and dual 4Gbps full-duplex Fibre Channel ports. With SANLink, any computer with a Thunderbolt interface can attach to the SAN, and enterprises can daisy-chain multiple Thunderbolt peripherals without sacrificing performance.

■ Promise Technology VTrak x30 Series

Promise Technology released the VTrak x30 series of storage solutions for Mac OS X. The x30 features 8Gb Fibre Channel ports for better video streaming performance, Intel Xeon C3500 processors, scalability up to 272TB of raw capacity, and 2GBps sequential writes with 5.5GBps sequential reads. The x30 supports Mac OS X, Windows, Linux, Xsan, and StorNext.

■ QStar HSM Synchronous Archive Replicator

QStar launched the QStar HSM Synchronous Archive Replicator, a software platform that enables users to build





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PRODUCT RELEASES

*Continued from Page 6*

hybrid archives that utilize several different storage technologies simultaneously, including RAID, tape, optical, CAS, object storage, cloud, or removable hard disk. The software also supports replication to multiple sites using iSCSI, Fibre Channel, or WAN technology.

■ Quest Software Backup Reporter For Oracle

Quest Software’s Quest Backup Reporter for Oracle is a lightweight desktop tool designed to provide database administrators with a dashboard view of all their Oracle backups. Features include reporting metrics such as performance, storage consumption and growth rates, health check, policy reporting, and backup schedule overview.

■ Quest Software ChangeAuditor 5.5

Quest Software released an updated version of its Quest ChangeAuditor, a real-time change auditing platform that now supports auditing for NAS storage systems. In addition to existing support for Active Directory, Exchange, SQL Server, LDAP, and Windows File Servers, Quest also added support for EMC Celerra and NetApp Filers. Quest ChangeAuditor 5.5 is currently available starting at \$15 per enabled user for EMC Celerra and NetApp Filers.

■ Sans Digital MobileRAID MR8X6

Sans Digital introduced the MobileRAID MR8X6, an eight-bay hardware RAID-embedded tower solution that uses the latest 6Gbps SAS interface. It supports 6Gbps SAS or 6Gbps SATA hard drives and comes standard with dual-channel SFF-8088 6Gbps SAS interfaces providing more than 600MBps of throughput. Other features include support for online expansion and online RAID migration, seamless hardware integration, and the ability to send out critical alerts.

■ Synology DiskStation DS411+II

Synology released the DiskStation DS411+II, a four-bay storage system that supports up to 3TB drives for a maximum capacity of 12TB. The DS411+II runs DiskStation Manager 3.1 software and features Synology Hybrid RAID, access control lists, and ADS support. The storage system is set to sell for less than \$670.

SECURITY

■ AEP Networks Secure Application Access

Prompted by market concerns about the security of sensitive data in public clouds and private data centers, AEP Networks has beefed up its Secure Application Access gateway with what it says are military levels of security. The company has integrated its Key Security and Management Hardware Security Module into the gateway to strengthen the cryptographic key system it uses to guard application access. After it creates secure keys using a high-quality random number generator, the HSM stores them in a tamper-reactive system that has been validated to NIST FIPS 140-2 level 4, wherein break-in attempts prompt the system to destroy the keys.

■ BeyondTrust PowerBroker Desktops 5.0

The newest version of BeyondTrust PowerBroker Desktops adds rule generation options and automation, new wizards, and enhanced dashboards all aimed at helping enterprises maximize network security by allowing desktop users to operate using the least set of privileges necessary for their jobs. PowerBroker 5.0 supports Internet

Explorer 9, providing network administrators with additional control over applications and ActiveX controls.

■ Datacard Group Datacard SuperC.A.T. II

Datacard Group’s SuperC.A.T. II card encoder lets financial institutions more easily manage cardholder PINs. SuperC.A.T. can encode pre-embossed magnetic stripe, contact, contactless, or EMV-compliant cards. The SuperC.A.T. II includes Datacard CardWizard software, and the Datacard Secure Issuance Anywhere infrastructure is ideal for card issuance or personalization environments.

■ McAfee Network Security Platform

McAfee announced the newest version of its Network Security Platform, which includes such new features as virtual data center support and the ability to work in tandem with third-party products. The Network Security Platform features enhanced botnet control that can prevent botnet attacks using malware samples as well as network connection reputations. Additionally, as part of a partnership with Reflex Systems, McAfee is providing security software for data centers with virtual environments, enabling McAfee to provide a full physical and virtual security solution for its customers.

■ SafeNet Migration Solutions

SafeNet announced two new migration bundles that are designed to provide enterprises with a fully trusted authentication alternative. The new solutions allow organizations to create and protect sensitive information in a secured environment by leveraging SafeNet’s programmable tokens and industry-leading Hardware Security Modules for comprehensive protection.

MESSAGING & TELEPHONY

■ Polycom Accordent Media Services Powered By Microsoft Windows Azure

Polycom announced a new Accordent Media Services cloud services offering hosted on Microsoft’s Windows Azure platform. The offering lets organizations quickly and cost-efficiently deploy one secure, searchable video content management solution for all video assets. Included is an installed, branded, and fully functional Accordent Media Management System that delivers content in various formats via Windows Azure Content Delivery Network. Customers can submit content from remote Accordent capture products via the cloud using Microsoft Expression Encoder, videoconferencing solutions, and Microsoft Lync 2010 clients. Full video content management abilities, publishing to Microsoft SharePoint 2010 solutions, and scalable delivery of live and on-demand content are also included.

■ StorageCraft ShadowProtect Granular Recovery For Exchange

StorageCraft’s ShadowProtect Granular Recovery For Exchange makes searching and restoring Exchange servers quicker and easier and complements StorageCraft’s ShadowProtect Server and ShadowProtect Small Business Server products. With the existing images those products provide, IT can use Granular Recovery For Exchange to access the Exchange EDB backup file within the backup image, navigate to specific email files, and drag and drop them to a production Exchange server or save them to a PST file.

■ Symantec Messaging Gateway 9.5

Symantec has announced the availability of Messaging Gateway 9.5, formerly

known as Symantec Brightmail Gateway. The latest release is designed to let users customize their levels of protection against spam messages and integrates tightly with data loss prevention and encryption solutions to protect companies from costly security breaches. Messaging Gateway 9.5 was specially designed with virtual environments in mind.

■ Vircom directQuarantine

Vircom announced directQuarantine, an add-on to its modusGate email security software. directQuarantine, a Microsoft Outlook add-on module, provides users with control of quarantined emails through direct, real-time access. Features include a seamless user experience, a Spam folder in Outlook that users can quickly access and search, and compatibility with modusGate 4.7 or 5.0. Although access is simple and direct, dangerous attachments, viruses, phishing links, and other threats remain safely on modusGate, not on Outlook. directQuarantine runs on Windows Server 2003/2008/2008R2 and Windows XP/Vista/7.

SERVERS

■ IBM POWER7 Servers & Blades

IBM announced additions and improvements to its POWER7 line of servers and blades. Notable updates include a 16-core BladeCenter PS703 or 32-core BladeCenter PS704 as well as optimized and enhanced IBM Power 750 Express and Power 755 systems, which both include 32 POWER7 cores.

CLIENTS

■ HP EliteBooks

HP added three new mobile workstations to its portfolio of products: the HP EliteBook 8760w, equipped with a 17.3-inch HD screen, up to 4GB of video memory, and support for up to three hard drives and RAID 5; the HP EliteBook 8560w, which has a 15.6-inch HD display and up to 2GB video memory; and the EliteBook 8480w, which has a 14-inch screen and weighs just 4.9 pounds. The EliteBook 8560w and 8760w also optionally support HP DreamColor displays.

■ HP Z210 Workstations

HP announced the HP Z210 Workstation, an inexpensive workstation that’s available in convertible mini-tower or small-form-factor options for use in space-constrained environments. The HP Z210 SFF and HP Z210 CMT are best suited to video editing, MCAD/AEC, education, public sector, and image viewing applications. Both units feature Intel Xeon E3 and second-generation Intel Core i3/i5/i7 processors. Other features include HP Performance Advisor software, reliability assurance thanks to HP’s rigorous three-axis temperature/frequency/voltage testing, and quiet operation. The new HP Z210 CMT is available starting at \$659, and the HP Z210 SFF Workstation is available starting at \$569.

■ Kaseya Service Billing 1.0 & Service Desk 1.3

Kaseya has expanded the financial abilities and organizational prowess of its IT automation platform with the new Service Billing 1.0 and Service Desk 1.3 modules. Service Billing lets service providers automate the entire billing process from one portal. The new version of Service Desk lets technicians track billable time against open tickets and work orders and offers enhanced performance and better organizational visibility, and it’s easier to use than previous versions.

■ Kofax Express 2.5

Kofax Express 2.5 is a new version of the company’s all-in-one scan-to-archive software package. New features include automated indexing capabilities and certification for Microsoft SharePoint 2010. Kofax Express 2.5 also includes Zonal OCR (optical character recognition) and Rubber Band OCR, which let users easily extract data from a document.

■ Microsoft Dynamics AX 2012

Microsoft’s new ERP solution, Dynamics AX 2012, is designed to help users anticipate and embrace change. Microsoft Dynamics AX 2012 features prebuilt industry capabilities and comprehensive, core ERP functionality; better agility through Unified Natural Models; and simplicity through the RoleTailored experience.

■ OfficeGemini Dokmee 3.0

OfficeGemini announced the release of Dokmee 3.0, a document management solution that allows businesses to store, manage, and retrieve mission-critical business files across an entire organization. Dokmee 3.0 provides offices with a centralized location for workers to store and manage all of their business files in an electronically accessible environment.

■ Oracle AutoVue 20.1

The Oracle AutoVue 20.1 platform provides improved document visualization, collaboration capabilities, and presentation tools, in addition to support for new formats and improvements for ECAD (electronic computer-aided design) and CAD (3D/2D computer-aided design). AutoVue 20.1 includes visual navigation hotspots, AutoVue document print services, expanded text extraction APIs, and desktop deployment Active X integration.

■ Oracle Enterprise Performance Management System 11.1.2.1

Oracle released a new version of its Enterprise Performance Management system with new features designed to help customers reduce the time and complexity of meeting financial close requirements. Release 11.1.2.1 includes support for iXBRL-based filings, updates to Oracle Hyperion Disclosure Management and Oracle Hyperion Financial Close Management, enhanced upgrade tools, and expanded platform support.

■ Oracle MySQL 5.6

Oracle has announced the development milestone release of MySQL 5.6, which features increased MySQL performance and scalability enhancements, an improved InnoDB storage engine, and enhanced replication capabilities. MySQL 5.6 also features enhanced replication through new crash-safe slaves, optimized row-based replication, and time-delayed replication.

SERVICES

■ HP Application Transformation Solutions

HP has introduced a number of application transformation solutions. The HP Application Portfolio Management SaaS offering helps companies analyze their portfolios against a set of enterprise goals and, when combined with HP Applications Rationalization services, gives clients a customized applications transformation roadmap. Other offerings include the HP Applications Transformation to Cloud services, HP Application Transformation Services for Client Computing, HP Fortify Real-Time Hybrid Analysis, and HP Fortify 360.



FEATURED COMPANY

# Intelligent PDU Solutions From Industry Leaders

## PDUs Direct & Server Technology Team To Provide Multiple Product Lines For Diverse Needs

by Rod Scher  
• • •

**YOU NEED GOOD**, clean, consistent power for your data center, but how can you be sure that your valuable equipment is getting the power it needs? The only way is to employ reliable power distribution units to supply the power and to use appropriate monitoring units to ensure that the power you're getting is in fact clean, efficient, and consistent.

### PDUs DIRECT & SERVER TECHNOLOGY

- [www.pdusdirect.com](http://www.pdusdirect.com)  
[www.servertech.com](http://www.servertech.com)
- PDUs Direct specializes in power distribution units that are simple, efficient, and affordable for data centers with basic needs.
  - Server Technology's PDUs and Sentry Power Manager software meet more sophisticated needs to provide and monitor power to mission-critical devices.
  - The companies work together to provide multiple product and service channels and exactly the resources that will provide the best value and customer service for all their customers.



Of course, sometimes you or your customers need basic or metered PDUs that you can set up and use quickly, with minimal complications. At other times, more complex problems call for more sophisticated solutions, and those can require more thought and more advanced units—and often more help acquiring and configuring those units. You need a PDU vendor you can trust, whether you're seeking a simple, economical power delivery solution or looking to equip a large data center with state-of-the-art power distribution and monitoring.

Either way, PDUs Direct and Server Technology are there for you. Two companies selling the quality, reliable and trusted Server Technology products, PDUs Direct and Server Technology can work together to help you meet the power and monitoring needs of data centers large and small. Whether it's an enterprise-class multi-facility data center or a tiny server closet, PDUs Direct and Server Technology have what you need. The two companies want to provide the best customer service and options, no matter how you choose to buy. And that's what PDUs Direct and Server Technology have accomplished.

#### Simple, Reliable PDUs, Shipped Quickly

For simple, fast, and affordable power distribution, turn to PDUs Direct ([www.pdusdirect.com](http://www.pdusdirect.com)). As a longtime leader in low-cost, fast-shipping PDUs, PDUs Direct's expanded offering includes affordable basic and metered PDUs as well as select switched models. PDUs Direct has been selected as the

Master Distributor for Server Technology on select products and will utilize a distribution channel and reseller channel to deliver products to customers.

Whether it's a simple 20A server rack power strip with 12 NEMA 5-20R outlets or a rackmount 30A 208V power strip with 24 IEC C13 outlets, PDUs Direct has what you need. A selection of more than 80 basic metered and switched units, PDUs Direct has your customers' most straight forward power distribution needs covered nicely.

As an approved GSA reseller, PDUs Direct provides some of the lowest-cost power distribution units in the industry and ships them the day after the order is placed in most cases. When your needs—or your customers' needs—are clear-cut, turn to PDUs Direct for quick delivery of dependable, Basic Metered and Switched PDUs.

#### More Sophisticated Tools For More Complex Operations

Need more? More sophistication? More features? More help? Server Technology ([www.servertech.com](http://www.servertech.com)) is there to provide the premier models of the most sophisticated PDUs and monitoring solutions currently available. Server Technology's PDUs provide more intelligence, switched and smart PDUs, per-outlet monitoring, and more productivity—and Server Technology can provide all the expertise you need to help you install and configure your PDUs.

For a better handle on PUE, you need more sophisticated delivery and monitoring units,

and Server Technology provides them in the form of POPS (Per Outlet Power Sensing) Switched PDUs such as the CWG-24V 3Ph PDU with 50/60Amp power distribution. Smart and Switched PDUs such as the CWG-24V can tell you if there's enough power available to add more devices or if you're close to exceeding the circuit's capacity. In addition, Server Technology's switched PDUs can control network access to remote sites and data center equipment via IP-based remote power management, and they can be configured to enable network access for remote power management to reboot servers and network gear individually or as a selected group.

Of course, complex technology requires sophisticated management. Server Technology's Sentry Power Manager is the most accurate system you can use to measure and monitor your power usage. It gives you the data you need to make critical decisions regarding your efficiency and carbon footprint, as well as temperature and humidity, at the rack level. Sentry Power Manager is the premium software solution for monitoring your network of sophisticated PDUs. Using SPM's Web-based interface, you can monitor and control your PDUs at the outlet level, view and print status logs, generate reports, and more, managing power distribution in a single data center, in centers across campus, or in locations around the world.

With Sentry Power Manager and Server Technology's sophisticated PDUs, you're in complete control of your complex power distribution needs.

HOT TIPS FROM MOVINCOOL CUSTOMERS:

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Matt Steding, Allina Medical Clinic's Maintenance Manager

When a "mission critical" data room became a "hot spot" after several upgrades, Matt Steding kept his cool. "The extreme weather puts an extra load on external compressors and condensers — which increases maintenance costs." Which is why he chose the more innovative, cost-effective solution: MovinCool's self-contained, ceiling-mounted CM25 air conditioner.

The MovinCool CM Series is perfect for high-tech data centers.

In addition to MovinCool's reputation for performance and reliability, Steding was impressed by the CM25's high sensible cooling capacity of 18,900 Btu/h, its seasonal energy efficiency ratio (SEER) of 14 and its compact dimensions. Sitting just 20 inches high, it easily fit into the ceiling space above the data room. "The CM25 has all the features we need — plus an affordable price."

To read more about Matt's MovinCool success, visit: [www.movincool.com/allina](http://www.movincool.com/allina)

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# Take Control Of Your Data Center Environment

Strategies To Keep Your Environment On Track

by Elizabeth Millard

**MONITORING FOR ENVIRONMENTAL** factors, including temperature, humidity, and other issues such as fire or flood, is essential for today’s data centers. But many data center and IT managers may not be aware how environmental monitoring devices can help and the breadth of issues they can monitor.

Controls can track temperature, humidity, airflow from an open window or door, smoke, leaks, hot spots, unauthorized access, and power surges. Here are some of the options that are available, and how they can be implemented in a data center.

Options Abound

Environmental monitoring equipment options are myriad, but there are a few basic options to consider when making a choice, according to Dave Ruede, vice president of marketing at Temperature@lert ([www.temperaturealert.com](http://www.temperaturealert.com)).

Direct-connection controls use a USB or other port and include software that runs on a computer or server. They have basic temperature and humidity sensors and can send email or SMS alerts. The advantages of these devices are that they’re low-cost, have frequent reporting intervals, and can generate logs. The downside is that the computer or server needs to be running, so if there’s an incident that takes it offline, no alerts can be sent out.

With a wireless system, monitoring controls operate through a standalone IP device and communicate through the company’s Wi-Fi network. Basic sensors can be expanded to include motion, leaks, and airflow, and alerts are also sent through email or SMS. The systems tend to be moderately priced, are expandable to support multiple sensors, and don’t need wiring or software on computers or servers. Challenges with these systems are that data and alerts aren’t available when power or the

network goes down, and there can be a long reporting interval.

A third option is a cellular-run system, where controls work through established carriers to a vendor’s servers. These have basic sensors that can be expanded to include the same type of sensors seen with a wireless system, and alerts can come in the form of SMS, email, and voicemails. The systems are reasonably priced and continue to work when power or IT networks go down. There’s no wiring needed, and vendors can store and display graphs and temperature logs. Unlike other systems, though, these require a service plan and have ongoing operating costs.

Choose Wisely

When looking for environmental controls, temperature tends to be the most important issue, but IT managers need to look beyond that standard to other controls, as well, notes Bob Douglass, vice president of sales and marketing at Sensaphone ([www.sensaphone.com](http://www.sensaphone.com)).

“Your environmental monitoring solution should also include monitoring for water under the floor, power failure, humidity, and even smoke and fire,” he says. “If you’ve ever been involved with a real fire that affected a computer room, you’ll know that the IT staff was the last to know. Everyone has a fire system already in place, but it usually only informs the building owners and facility managers.”

Another important factor is redundancy, says Douglass. Many of the solutions for monitoring make the assumption that a network and Internet connection will be up and running at all times. But that’s not always the case, especially during a failure or emergency. Douglass recommends putting in a good old-fashioned phone line for a redundant communication path and also advises firms to choose a monitoring system that includes its own independent battery backup in case the UPS doesn’t work.

Some managers also tend to overlook hot spots as an area to measure, says Mo Sheikh, marketing programs manager for ITWatchDogs ([www.itwatchdogs.com](http://www.itwatchdogs.com)). Too many people only think of the ambient room temperature in their server

Key Points

- The three basic types of environmental monitoring controls are direct connection through USB or another port, wireless, and cellular/mobile.
- When looking for a control system, think about putting redundancy strategies in place in terms of communication and backup power.
- Determine up front what an enterprise needs and size appropriately, rather than getting numerous features that will go unused.

rooms, he notes, although temperature can vary by 10 degrees or more at different points in a room, and variations of 20 degrees inside a server rack are common.

Another neglected aspect of control is humidity, he adds. Rapid temperature drops or high humidity can cause condensation to form on electronic equipment, resulting in hardware corrosion and component failure. Sheikh says, “Relative humidity is directly related to temperature; hence, monitoring temperature and humidity together is key.”

**Choose A Right-Sized Solution**

There really can be too much of a good thing, believes Martin Ramirez, senior account manager at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)). He’s seen many data center managers spend a considerable amount of money on a robust system and then fail to take advantage of its capabilities.

“There have been many times where I’ve walked into a data center and been shown all the bells and whistles, but when I asked for reports and data on these things, I have been told that they haven’t had time to implement those features,” Ramirez says. “So, now the data center manager has invested money from his budget that could have gone to more urgent needs.”

Instead of squandering funds, data center managers should understand up front what an organization’s needs are and then get a right-sized solution to meet those goals, with some room for growth, he advises. ■

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Challenge Round

- According to Michael Sigourney, senior product specialist at AVTECH ([www.avtech.com](http://www.avtech.com)), here are some common missteps that data centers make when putting monitoring controls in place:
- Failing to plan in advance of a disaster
  - Purchasing a solution based on price, both at the high and low end
  - Shopping with a simple checklist instead of learning about important product features that are available
  - Failing to fully consider accompanying firmware and software
  - Neglecting to consider important maintenance and support services
  - Not picking up the phone and speaking with product specialists who know their products best



FEATURED PRODUCT

# Put The Freeze On Your Cooling Costs

Black Box Cold Front Uses Passive Liquid Cooling To Cut Your Power & Cooling Costs

by Marty Sems  
• • •  
**WHAT’S THE OPERATING COST** of your data center?

If there were one ongoing expense you could reduce in your server room, it would probably be the energy bill. You could split that monthly charge into two categories—server power and cooling—but the proportions might depress you.

In fact, a study conducted by the Uptime Institute found that a data center’s typical energy consumption is two to 2.6 times its cooling needs. In other words, about half of your server room’s operating cost may go directly to management of its waste heat. There’s an awful lot of room for improvement, but not an awful lot of physical room for additional equipment.

Unfortunately, many (if not most) data centers weren’t built with today’s high densities in mind. As data centers pack more processing power into each rack, cooling problems arise. CRACs/CRAHs (computer room air conditioners/air handlers) simply can’t keep up, all the while using way too much energy as they try to do so.

“Traditional data center cooling methods (e.g. hot aisle/cold aisle) work well up to about 6kW of load per rack but are not efficient as densities increase,” says Black Box Network Services Product Manager Gina Dickson. “This is becoming a prominent issue for data centers with increasing server densities as well as virtualization. Racks are being loaded with high-powered servers, and cooling these racks becomes a problem.”

Black Box’s Cold Front can help solve the problem. It’s a passive liquid-cooling solution designed for extremely low cost of operation. Moreover, it’s just about a bolt-on upgrade for virtually any cabinet-based data center, so you can avoid heading down the path of expensive renovations or physical expansion.

### On The Front

“Cold Front allows you to provide sufficient cooling for medium- to high-density IT enclosures,” Dickson says, adding that it can also prevent hot spots and related equipment failures. “It’s different from traditional perimeter cooling methods (CRAC/H) because it uses liquid for cooling. Liquid cooling is more efficient. Additionally, the Cold Front method brings the cooling right to the source of the heat—the enclosure”

The basic unit of a Cold Front system is a Heat Transfer Door, or HTD. It’s basically a radiator that replaces the rear door on a server cabinet. The server’s existing fans move air through it. A specially

designed fin and tube coil lets the air pass through easily without posing a restriction.

At the same time, the circulating liquid in the HTD removes the heat from the server exhaust air before it enters the data center and contaminates the cool supply air. Each door can provide up to 35kW of cooling power—almost six times the capacity of air cooling, according to the company. And it does so without the abysmal power draw from traditional cooling systems.

“There are other liquid-cooled offerings on the market . . . but they all utilize fans,” Dickson says. “Cold Front is unique because the doors are passive. No electricity is required for cooling. This tremendously reduces operating expenditures, saves energy, and is green.” Black Box says its passive system can cut cooling energy consumption by 90% or more.

Although Cold Front HTDs are made to fit Black Box’s Elite line of cabinets, they can be retrofitted onto virtually any existing cabinet, Dickson says. “You do not have to replace your existing enclosures.”

Cold Front also has a smaller footprint than competitors, Dickson says. As an example, she says, one competitor’s product must be placed between enclosures, taking up valuable floor space and impacting the raised floor alignment.

It’s easy to see how replacement cabinet doors can take up less physical space than CRACs or in-row cooling systems. As evidence, Black Box cites an Uptime Institute report on an Orlando, Fla., installation. A Cold Front retrofit allowed the data center to consolidate its equipment into just 25% of the space because of the compactness of the liquid-cooling system. Put another way, switching from CRAC to liquid cooling freed up three-quarters of the floor space, obviating the need to add on to the facility.

A lack of a need for hot and cold aisles also frees your business to rearrange your server room or data center as you like. And with Cold Front, there’s no need for chimneys, raised flooring, or other duct arrangements.

### Chilling The Loops

The coolant loop within the HTDs needs to pass its heat energy elsewhere. Depending on your server load, you might be able to get by with a direct connection to a chiller.

In most cases, however, your HTD installation should be paired with a Coolant Management System, or CMS. This intelligent pumping unit eliminates the worry of condensation—not to mention the additional infrastructure you would need in order to dis-

## Black Box Cold Front Solutions



Coolant Management System	CD020Wxx	CD150Wxx-x
Cooling Capacity (kW)	20	150
Heat Transfer Doors Supported	2	12
Pump Capacity (gpm)	10.6	63
Form Factor	6U rackmount	36U floor mount
Dimensions (inches; HxWxD)	10.5 x 19 x 29	72 x 31.5 x 43
Power Requirements*	208V single-phase	208V or 480V triple-phase

\* 60Hz implementations; 50Hz available

pose of the runoff—by keeping tabs on temperatures and pressure levels in the system. It can maintain the temperature above the dew point by deciding when to move liquid through the HTD’s loop.

A separate loop runs to a chiller or your facility’s existing cold water supply. The CMS allows the two loops to transmit thermal energy with a stainless steel plate heat exchanger. Black Box even designed its CMSes to be able to tie into a building management system and browser-based control interface.

Cold Front CMSes come in two models (see this article’s chart for more information). The first is a rackmount system with support for one or two Heat Transfer Doors. The other is a freestanding version that can handle up to 12 HTDs.

The key, Dickson says, is to “understand the amount of heat that will be generated by the equipment in the enclosure. If you only have a couple of enclosures, the 6U rackmount CMS will provide up to 20kW of cooling. This is a great solution for certain applications.”

Of course, you can scale up for larger applications with additional HTDs and CMSes, building capacity as you go. “You can always add more heat transfer doors as your data center expands,” Dickson says. Cold Front’s expandability makes it possible to avoid an up-front, large outlay that may take years to grow into.

### Cold Cash

With initial costs comparable to CRAC, CRAH, and in-row systems, passive liquid cooling’s energy savings start to manifest themselves immediately, according to Black Box. In addition, the TCO is much less than other liquid-cooled offerings, Dickson says.

Once installed, Cold Front costs little to run, even using Coolant Management Systems. Because Cold Front is highly efficient, consumes far less power than CRAC/Hs, and addresses the heat at the source, the system can pay for itself in a matter of months.

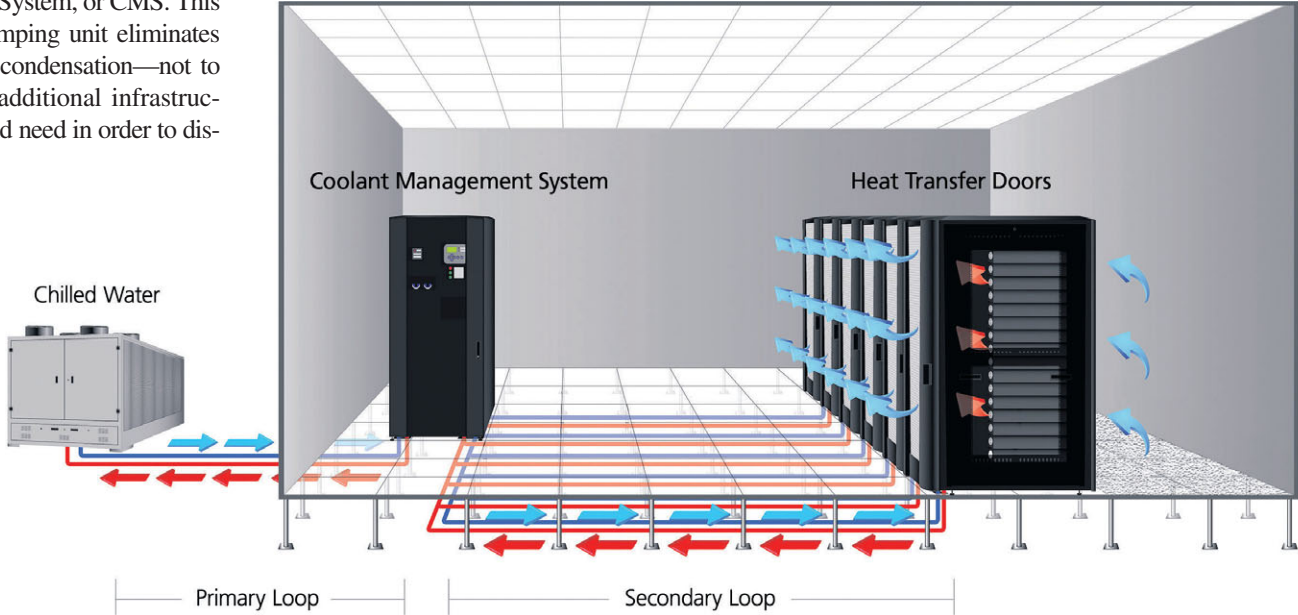
In a recent retrofit at a large Midwestern university to support a new HPC cluster, Black Box estimates that Cold Front will save \$130,000 in power and cooling costs over the next five years. That figure could potentially rise to \$200,000 over the next decade accounting for possible rate hikes in utility pricing, the company says.

A Cold Front renovation is definitely less expensive than building a new data center to support traditional cooling methods with more floor space. Black Box estimates a 20 to 26% savings on power and cooling based on conservative figures, and that doesn’t even take into account the costs of the building or land involved. And the university HPC retrofit cost just \$1 million instead of a potential \$60 million for new a CRAC-based infrastructure, according to the company. **P**

## BLACK BOX NETWORK SERVICES COLD FRONT

(888) 433-5049  
www.blackbox.com/go/coldfront

A passive water cooling system you can retrofit to your racks; the efficient system can potentially cut your power and cooling bills in half.





FEATURED PRODUCT

# Reliable Backup Power

Cummins Diesel Generator Sets Give You Power When You Need It, Where You Need It

by Marty Sems  
• • •

**HAVING CONTINUOUS POWER** is critical to enterprises where ensuring data center uptime can mean the difference between turning a profit and going under. When disaster strikes and suitable electrical power is unavailable, Cummins Power Generation ([www.cumminspower.com](http://www.cumminspower.com)) can keep you up and running with its diesel generator sets, or gensets, which “provide standby, prime, and peaking power for all kinds of businesses and government organizations,” says Wissam Balshe, application engineering team leader at Cummins.

As a standby generator, a Cummins diesel genset can restore power to your data center during an outage. The same generator set models can also fill the role of a prime power source in a temporary field office, such as during a repair or refurbishment.

“Only Cummins Power Generation offers PowerCommand pre-integrated power systems,” Balshe says. PowerCommand is the firm’s advanced electronic control technology, responsible for frequency and voltage regulation, output metering, fault detection with automatic shutdown support, and Cummins’ AmpSentry protection feature. PowerCommand also allows for automatic remote startup and shutdown.

“We design and build all the major components of the power system to work together: engine, alternator, air handling and fuel filtration, turbocharger, control system, transfer switch, and paralleling gear,” Balshe

says. “In addition, the control units, transfer switches, and paralleling systems use the same PowerCommand technology, ensuring seamless integration.”

### The Case For Generator Sets

According to Balshe, there are a number of reasons why a Cummins diesel generator set might be the right option for your small to medium-sized enterprise. The first of these is rapid product availability: Once your organization signs off on this investment, you won’t be stuck waiting an inordinate amount of time for your new generator set to ship.

Next is Cummins’ “proven reliability and low lifecycle costs,” Balshe says. Customers may opt for a two- or five-year warranty administered by Cummins’ worldwide distributor network.

Balshe also points to the gensets’ operational flexibility. From industry to IT to resource exploration to archaeological excavation, there are numerous scenarios that could benefit from a Cummins diesel genset.

The quality of the electrical power produced is quite high, too, Balshe says. The high-range DQKAA, DQKAB, and DQLE models, for example, feature no-load to full-load voltage regulation of  $\pm 0.5\%$ , with the same figure for their random voltage regulation ratings. Both units’ random frequency variation is  $\pm 0.25\%$ . Finally, their alternators’ waveform total harmonic distortion is less than 5% (no-load to full linear load), and their low subtransient reactance will ensure the generators can handle the high levels of harmonic distortion introduced by the input on the non-linear rectifier loads, such as UPSes, servers, and variable frequency drives used by the data center chillers, Cummins says.

The infrastructure is already well established for Cummins diesel generator sets, Balshe continues. There’s the company’s base of distributors around the globe, so service is never a problem. In fact, 24-hour service is available, Balshe says. Additionally, diesel fuel is ubiquitous in virtually every region, providing the energy for shipping, construction, and agriculture. A diesel generator is simply the most practical choice in many areas.

### Cummins Diesel Gensets Fuel Consumption

Model	Standby ratings*		Prime ratings*	
	Electrical output (kW)	Fuel usage** (gph)	Electrical output (kW)	Fuel usage** (gph)
DQKAA	1,750	40 to 121	1,600	37 to 110
DQKAB	2,000	46.5 to 141.3	1,825	43.3 to 124.1
DQLE	2,500	57 to 176		

\*Standby represents emergency power; prime implies the genset is the sole power source.  
\*\*25% to 100% load.

Generator sets from Cummins ensure high efficiency by producing electrical power using as little fuel as possible. Here is a look at the gensets’ No. 2 diesel fuel hourly consumption rates.


Even environmentally sensitive locations may not be off-limits to a Cummins generator set, Balshe says. The company can install optional exhaust after-treatments that can reduce emissions from the combustion process, a point that can be critical in applications requiring many

temperatures of -18 degrees Celsius to 0 C (0 degrees Fahrenheit to 32 F).

The cast-iron mill can produce a range of kilowatts depending on the model, from the DQKB, with a 1,750 kW standby rating for the 60Hz version, to the DQKH model, with a 2,250 kW standby rating for the 60Hz version. Prime and Continuous power ratings are somewhat lower.

The DQLE model, rated at 2,500 kW for standby applications, uses a QSK78 engine, with a displacement of 77.6 liters in a V-18 design. The DQLE complies with all EPA emissions requirements for stationary engines.

All the models accept the full rated load in accordance with NFPA 110 for Level 1 systems. The generator sets also meet the applicable requirements of the EPA’s New Source Performance Standards for Nonroad Source Exhaust Emissions. In addition, these generator sets are certified for seismic applications in accordance with the following versions of the International Building Code: IBC2000, IBC2003 and IBC2009. The generator sets have also received preapproval by OSHPD, the California agency that certifies equipment for use in hospital and other critical-care facilities.

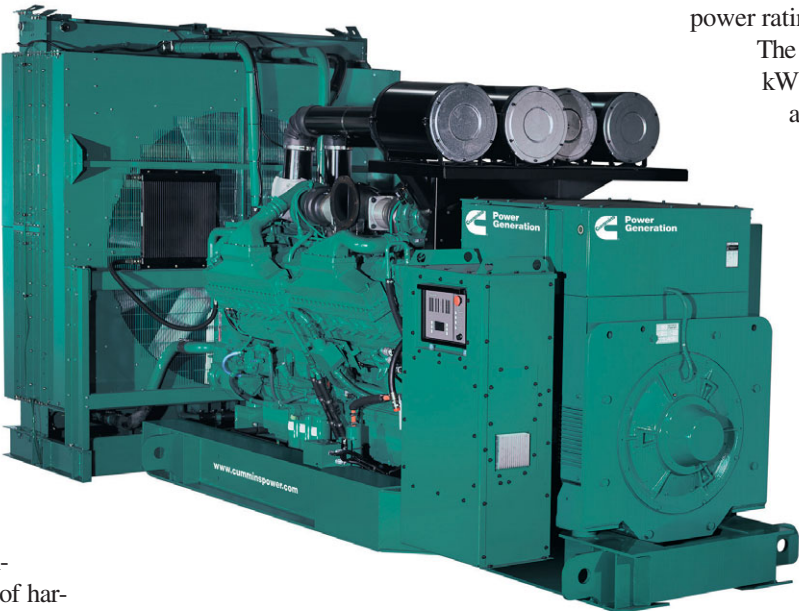
Cummins also sells other diesel generator sets ranging from 7.5 kW to 2,700 kW to address a broad range of needs. Pricing can vary, so check with the nearest Cummins Power Generation distributor for details at [www.cumminspower.com/en/locator](http://www.cumminspower.com/en/locator). 

## CUMMINS POWER GENERATION DQKAA, DQKAB & DQLE GENERATOR SETS

(800) 888-6626  
[www.cumminspower.com](http://www.cumminspower.com)

**Description:** Diesel generator sets that provide clean, reliable electrical power when a data center’s main power source goes down or is otherwise unavailable.

**Interesting Fact:** Optional enclosures offer noise reduction and weather protection.



hours of operation in ecologically fragile areas.

### The Nitty-Gritty

The DQKAA and DQKAB models use a QSK60 series 16-cylinder engine with a cast-iron block and a 60.2L displacement. The engine is matched with a brushless, four-pole, drip-proof revolving field alternator with a 2/3 pitch stator. The units supply single- or three-phase AC power and come in 60Hz and 50Hz versions. The generator sets are equipped with 2,200-amp batteries, as rated by their minimum charge at ambient

### PHYSICAL INFRASTRUCTURE

#### Per-Outlet-Power-Sensing (POPS) CDU



##### Power Information Per Outlet Includes:

- Current load (A)
- Voltage (V)
- Power (kW)
- Apparent power (VA)
- Crest factor
- Power factor

This information can be used to calculate the PUE and DCiE from The Green Grid, which in turn will allow data center managers to make informed intelligent decisions about their facilities.



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### PHYSICAL INFRASTRUCTURE



#### Sentry Power Manager (SPM)

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- Reliable three-phase power distribution
- Local and remote power monitoring and environmental monitoring via IP
- Link to an expansion unit for more outlet



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BUYING GUIDE



BUYING TIPS:  
Data Center  
Racks &  
Cabinets

by Blaine Flamig

**RACKS AND CABINETS** are integral components of nearly every data center, but their importance often goes overlooked. Make the wrong choice in the type you stick your equipment on or in, and you could be asking for trouble in terms of damage caused by heat, dust, and moisture; exorbitant cooling costs; unwieldy cables; excessive noise; and security breaches. When purchasing racks and cabinets, keep the following considerations in mind.

**Know thy equipment.** You may know what equipment you'll use your racks and cabinets for, but you also need to know the impact that equipment will have. For example, knowing how tall and wide the racks/cabinets must be to accommodate said equipment is imperative. Height-wise, Gina Dickson, Black Box Network Services product manager, says, "42U is standard, but 45U is becoming more popular, and a smaller height like 38U might be necessary for legacy rooms where cable is going to be

overhead." Width-wise, the current cabinet standard is 24 inches wide, though 30-inch wide cabinets are gaining popularity. Depth-wise, "if you are mounting equipment with different depths, you may even need to consider multiple sets of rails or split rails to accommodate the different depths," Dickson says. Overall, Rackmount Solutions account manager Susan Wynne suggests buying cabinets that can accommodate equipment "with the largest dimensions" possible.

**Work the room.** Related to space considerations is an analysis of the room the racks/cabinets will go in, Wynne says. "Can the cabinet be easily transported to the destination?" she says. "Will it roll through standard-height doors? Are doors and side panels removable for easy installation? Is the product solid and durable? Is there room to grow for additional product purchases?" Dickson adds that it's important to take into account raised floors and ceiling height, which will

impact how tall racks/cabinets can be. "Bigger is always better when choosing a cabinet, allowing for more equipment, cables, etc." she says. "But if you have a limited footprint, the 48-inch deep, 30-inch wide cabinet may not be an option."

**Stay cool.** One of the most important considerations is heat. Gauging how much heat equipment will generate will help determine what cooling methods will be adequate for the racks/cabinets you purchase. For example, Dickson says, using a traditional hot aisle/cold aisle approach will impact the cabinet doors required because you'll need mesh doors. "You need to ensure that the cool air is directed to the front of the cabinet and that the hot air can disperse from the rear," Dickson says.

**Key Terms**

**M6 holes.** Square holes common with rack-mount equipment and server cabinets; they can be adjusted to a round hole with a cage nut.

**Rackmount units (RMU).** Cabinets and racks are measured in rackmount units, with each RMU, or U, equivalent to 1.75 inches.

Elsewhere, the temptation to use open racks vs. cabinets to combat heat can result in merely filling the entire room with heat. "This may work fine for low levels of heat, but once enough equipment is present, it will become impossible to keep the equipment at an acceptable temperature," Dickson says. One cooling approach gaining popularity is a modified hot aisle-cold aisle with containment, she says. "All the cold air is forced into the cold aisle, which is contained with doors to keep the cool air in. The warm air is then pushed back into the room or up into the plenum using chimneys on the top of the cabinets." This approach does require a cabinet offering containment doors and chimneys as accessories.

**Other factors.** Your rack and cabinet purchases will also need to take into consideration items such as determining whether equipment needs to adhere to ETSI standards, checking if rails are pre-drilled and adjustable, knowing rail weight limits and included mounting hardware, safeguarding against earthquakes, examining overnight and weekend building air conditioning practices, and factoring in noise.

**Buyers' Checklist**

- ☒ Is cable management built in, or does the rack or cabinet leave adequate space to neatly route cables? Does the rack/cabinet provide PDU mounting options?
- ☒ Many cabinets now come standard with PDU mounting brackets.
- ☒ Does the equipment you're mounting require tapped or M6 holes?
- ☒ Will you need to disassemble the rack/cabinet to get it in the room?
- ☒ Is the cabinet lockable to prevent potential security issues?

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For: You Time: Middle of the night

**PROBLEM:**

Server went down	X	Power failure	X
Water on floor	X	Temperature High	X

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**Four vibrant colors.** Get rid of the confusing "black power cord mess" inside your server cabinet. Now you can use specific colors to identify critical devices with and without redundant power. Cords are available in green, yellow, red, and blue, with custom colors also available.

**Eliminate the slack.** We offer our power cords in exact lengths—even in inches. In addition to providing an organized and maintained work environment, having the exact length of power cords will greatly improve your server room's performance by minimizing the amount of clutter in an enclosure, which increases airflow and the life of the equipment.




**Jacket flexibility.** Oncore's power cords have a soft, flexible jacket for easy maneuvering inside the cabinet. The cord's flexibility is extremely important, especially when the cables have to make tight turns. In addition, our cables aren't shipped as a coiled cable with a tie wrap, which can cause kinking. They are shipped in bundles of 10, loose in the bag, which keeps the power cables in their natural state and free of kinks.




**Data center- and lab-rated.** Our power cords have been designed specifically for data center and lab environments. All of our cables carry a UL certification and are RoHS-compliant. In addition, they are rated to 250V, which can be used in either the United States or Europe.

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# Specialty Server Racks & Cabinets

Product	<h2>Black Box ClimateCab NEMA 12 Cabinets</h2> 	<h2>Black Box ClimateCab NEMA 12 Wallmount Cabinets</h2> 	<h2>Data Center Depot CableMax</h2> 
Description	<p>Black Box's ClimateCab enclosures offer climate-controlled protection that lets you install servers without the need for additional cooling or costly infrastructure. These full-sized cabinets come configured for servers or datacom equipment and feature a welded 12-gauge steel frame with integral struts.</p> <ul style="list-style-type: none"><li>Rated for protection against falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids in indoor environments</li><li>Full-sized cabinet with 42U of racking space</li><li>Available with 12-24 or M6 rails</li><li>Choose from models with 6,000 BTU or 8,500 BTU air-conditioning units</li><li>40-inch depth accommodates most servers</li></ul> <p><b>Best For:</b> Housing servers in remote locations without cooling infrastructure.</p> <p><b>Price:</b> \$4,499.95 to \$5,499.95</p> <p><b>Contact:</b> (888) 433-5049   <a href="http://www.blackbox.com">www.blackbox.com</a></p>	<p>ClimateCab NEMA 12 Wallmount Cabinets from Black Box are the answer when you need to install a small amount of rackmount equipment in less-than-ideal conditions. These secure cabinets provide a compact way to protect and cool sensitive components.</p> <ul style="list-style-type: none"><li>NEMA 12 rated for protection against falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids in indoor environments</li><li>Compact wallmount design saves space</li><li>Single- or double-hinged</li><li>Choose from a cabinet with a fan or an 800 BTU air-conditioning unit</li></ul> <p><b>Best For:</b> Equipment protection in hot, dirty environments such as factory floors.</p> <p><b>Price:</b> \$999.95 to \$2,795.95</p> <p><b>Contact:</b> (888) 433-5049   <a href="http://www.blackbox.com">www.blackbox.com</a></p>	<p>CableMax from Data Center Depot is the premier cabinet for cable and heat management. This cabinet was designed to combat the problems caused by the trend of components getting smaller while capacity is increasing. CableMax employs an abundance of cable pass-through holes in the frame for cross cabling and mesh enclosures to promote airflow throughout the cabinet.</p> <ul style="list-style-type: none"><li>Can use split rear doors to save aisle space</li><li>Split rail system available so you can have two different rail depths</li><li>Improved Ganging system</li><li>Features 63% or 80% mesh in doors and top panels</li><li>Additional adjustable vertical and horizontal cable management available</li><li>Dirak locks and handles on doors and side panels</li></ul> <p><b>Best For:</b> Data centers in need of a cabinet with a large number of cable pass-throughs.</p> <p><b>Contact:</b> (877) 429-7225   <a href="http://www.datacenterdepot.com">www.datacenterdepot.com</a></p>

Product	<h2>Information Support Concepts Economy WC Series 42U Server Rack Cabinet</h2> 	<h2>iStar Group Claytek WSM-960 9U 600mm Depth Rackmount Server Cabinet</h2> 	<h2>Rack Solutions 55U Open Frame Rack</h2> 
Description	<p>The Economy WC Series 42U Server Rack Cabinet from Information Support Concepts is available in both a traditional 42U, 19-inch model with 36.5-inch usable depth and a Co-Lo version that includes four 10U secure client compartments. The WC Series cabinets are available with free dock-to-dock shipping anywhere in the continental United States.</p> <ul style="list-style-type: none"><li>Both units measure 80.91 x 23.62 x 39.37 inches (HxWxD)</li><li>71% ventilated high-density door</li><li>Heavy-duty casters and leveling feet</li><li>Removable side panels</li><li>Perforated roof and front and rear locking doors</li></ul> <p><b>Best For:</b> Enterprises with deep, hot-running servers that need affordable racking.</p> <p><b>Price:</b> \$799.95 for traditional 42U version; \$1,750 for Co-Lo version</p> <p><b>Contact:</b> (800) 458-6255   <a href="http://www.iscdfw.com">www.iscdfw.com</a></p>	<p>With a supported chassis depth of up to 23 inches, the rugged, shockmount-style WSM-960 server cabinet from iStar Group's Claytek division features a patented anti-vibration design with an industrial spring located under the cabinet post cage.</p> <ul style="list-style-type: none"><li>Gilled side panel air vents</li><li>Portable handle included</li><li>Optional front and rear covers and optional casters</li><li>Universal approach fits most rackmount chassis and equipment</li></ul> <p><b>Best For:</b> High-risk and rugged IPC environments.</p> <p><b>Contact:</b> (888) 989-1189   <a href="http://www.istarusa.com">www.istarusa.com</a></p>	<p>The 55U Open Frame Rack from Rack Solutions provides up to 30% more space than a typical 42U model, while consuming less square footage. The rack optimizes cooling, makes wiring easy, and has streamlined support for power strips and PDUs. It is compatible with Dell, HP, IBM, Cisco, and almost everything else. Optional accessories include extra vertical cable organizers, side panels, tops, a caster kit, power strips, and a baying kit.</p> <ul style="list-style-type: none"><li>3,000-pound capacity</li><li>24-inch width makes it perfect for data centers</li><li>Flush floor mount spreads load on floor tiles</li><li>Universal square holes with cage nuts included</li><li>Other sizes available: 24U, 30U, 36U, 44U, 50U</li></ul> <p><b>Best For:</b> Data centers that could benefit from additional vertical rack storage space.</p> <p><b>Price:</b> Starts at \$499.99 for 55U</p> <p><b>Contact:</b> (888) 903-7225   <a href="http://www.racksolutions.com/rack">www.racksolutions.com/rack</a></p>



Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Blaine Flamig

## Data Center Depot Seismic Equipment Cabinet



The Seismic Equipment Cabinets from Data Center Depot are designed to protect valuable equipment in the event of an earthquake. A basic 40U cabinet is available, along with two 44U cabinets with special features designed to protect and manage a large volume of cables, patch cords, or fiber cables. This cabinet has an integrated top panel with cable pass-through and options such as a bend limiter with access hinge and a cable tie-down bar to enhance cable management.

- NEBS Zone 4 tested
- Top panel with cable cutout for cable pass-through
- Available with open- or solid-sided frames
- Cable management available
- Available in various sizes

**Best For:** Data centers that need to protect equipment from possible earthquakes.

**Contact:** (877) 429-7225 | [www.datacenterdepot.com](http://www.datacenterdepot.com)

## Hergo 12U S-Rack



This 12U/36-inch enclosure cabinet features a unique channel shock-mount assembly for the maximum level of equipment protection in seismic-prone environments.

- Four 11 GA square cage knock-out mounting rails
- Top fan assembly with four 75cfm fans
- Locking front and rear doors with knock-outs for additional fans
- Perforated, removable side panels with 12 x 24 filters
- Options include 24- and 27-inch fixed or slide-out shelving, 6-port RM power strip, and 1U cable loop panel

**Best For:** Housing network equipment under conditions of shock and vibration.

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

## Hergo ApxServer Noise Reduction Enclosure



Hergo's ApxServer Noise Reduction Enclosures allow for mounting of all computers and electronic equipment that meets the EIA 19-inch specifications. The enclosures are 24 x 36 inches and come in either 12U or 26U heights. They feature Class A noise reduction foam and are Class A fire-rated.

- Can hold up to 800 pounds (12U model) or 1,000 pounds (26U model) with industrial casters
- 12U version perfect for under desks
- Black, quality powder-coat finish; environmentally friendly
- Front and back doors include locks

**Best For:** Enterprises that could benefit from reduced noise.

**Price:** Starts at \$1,195

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

## Rack Solutions Wall Mount Rack



Rack Solutions' Open Frame Wall Mount Rack offers nine different configurations, making it ideal for almost any application. The Wall Mount Rack lets you mount up to 21U of equipment in the front rack space and allows for up to 9U of space on the top and bottom of the rack. The open design promotes optimal airflow and provides easy cable access and tie points.

- Up to 400-pound capacity
- Available in 12U, 15U, and 21U heights
- Available in 4U, 6U, and 9U depths
- Optional side panels, top panels, and front covers
- Assembles in less than 10 minutes

**Best For:** Network switches, patch panels, and servers.

**Price:** Starts at \$199.99

**Contact:** (888) 903-7225  
[www.racksolutions.com/wall-mount-rack.htm](http://www.racksolutions.com/wall-mount-rack.htm)

## Rackmount Solutions Air Conditioned Server Cabinet & Soundproof Server Rack



Rackmount Solutions' Air Conditioned Server Cabinets have built-in A/C units with 4K, 7K, 10K, or 20K BTUs to protect equipment in warm or dirty environments. Units are available from 14 to 48U, with depths from 24 to 42 inches. Soundproof Server Racks from Rackmount Solutions reduce external sound up to 28.5dB while dispersing internal heat loads up to 7kW. Built-in casters make it easy to move these servers to another area when the need arises. The Soundproof Server Racks are available in active and passive versions and in 24U and 42U sizes.

- Air Conditioned Server Cabinet protects expensive equipment from overheating, works like a refrigerator with a condensate pan, and can be paired with a rack-mount or side-mount A/C for more space
- Soundproof Server Racks decrease noise up to 28.7dB(A), which is the equivalent of taking freeway noise levels down to library-quiet. Also disperses up to 7KW of heat. Employees can concentrate better, leading to increased productivity and less physical strain from excessive noise

**Best For:** Data centers and standalone applications with heat problems.

**Price:** Starts at \$5,633 (Air Conditioned Server Rack) and \$5,249 (Soundproof Server Rack)

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

## Rackmount Solutions Network Cable Bundle Server Rack



Need to secure a rack with a serious number of cables? Rackmount Solutions' Network Cable Bundle Server Rack solves all problems. With a roomy interior up to 28 inches, you can set your rails to 19 or 23 inches and slide left, right, or center to allow for your cabling needs. Rails slide front to back and side to side for maximum flexibility. The unit is available as an open rack or with doors, side panels, and tops for security/aesthetics.

- Compatible with all leading servers, including blade servers
- Allows up to 10 inches of cabling space between side panel and rail
- Use as an open rack or add security with locking side panels and doors

**Best For:** Data centers and standalone applications needing to integrate quantities of cable drops.

**Price:** Starts at \$1,115

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)



FEATURED PRODUCT

# Mobile Server Cabinet Lets You Rack & Roll

Claytek Product Offers Convenience, Security

by Seth Colaner

**POP QUIZ:** What’s better than a rack-mounted server cabinet? Answer: A rack-mounted server cabinet on wheels. Mobile capabilities of this sort give enterprises the ability to build a serious system in a single unit and transport it wherever it needs to be in the data center.

The WG-129 Rack-Mount Server Cabinet from Claytek, a division of iStarUSA Group, boasts plenty of robust features that combine to make this mobile server cabinet an indispensable tool for many data centers. With the WG-129, data center administrators can easily set up a powerful workstation wherever they need it, without skimping on convenience, capabilities, or power protection.

Built For Convenience & Efficiency

The WG-129 is built for convenience, as any mobile equipment should be. “The WG-129 model cabinet minimizes workspace footprint, while it maximizes utility and storage space,” says Aaron Wang, marketing manager at iStarUSA. “Its built-in cable tunnels make cable management easy, and lockable and

removable front, rear, and side panels improve maintenance efficiency.”

Thus, the WG-129 keeps a low profile while still giving users a cabinet that can accommodate a great deal of powerful equipment.

Measuring 31.5 x 23.6 x 35.4 inches (HxWxD), the WG-129 can accommodate most rackmount chassis and equipment, so you don’t need to be concerned with whether your components will fit. The horizontally adjustable rails further provide the best fit for rack equipment, and the cabling tunnels make it easy to connect everything while keeping the whole unit tidy and uncluttered.

Although it’s easy and convenient to set up and use, the WG-129 is heavy duty. It can handle a load capacity of 2,200 pounds, ensuring that users can pack it full of rack equipment without stressing the unit. The WG-129 rests on heavy-duty castors, which are included along with mounting accessories.

The WG-129 supports chassis depth of 29 inches and smaller, and it can accommodate up to 12 units. To facilitate adequate circulation and cooling of an entire rack cabinet’s worth of equipment, users can opt for up to three 120mm AC cooling fans, and a 1U digital temperature unit keeps users informed as to the cooling status of the equipment.

To keep the workstation secure and prevent any unauthorized personnel from accessing the equipment, the WG-129 features front, rear, and side security locks.

Leading The Competition

One of the ways a product can distance itself from the competition is in the details—those little touches that mean the difference between a good product and a great product.

The WG-129 has plenty of smart details, such as a customizable front panel door with a silk screen that keeps the unit looking sharp. The vented doors help ensure proper airflow, contributing to the

overall cooling of the equipment inside and thereby keeping costs lower. For users that require a monitor for the workstation, the WG-129 includes an optional monitor mount, and the locking mechanism on the castors ensures that the WG-129 will remain securely in place.

These details matter, as they contribute to the efficiency, safety, and convenience of the WG-129.

“Our customers buy this cabinet for its heavy-duty design, customization-readiness, and easy access through removable front and rear doors, as well as the side panels,” Wang says.

Variety Of Optional Accessories

The WG-129 comes with a variety of optional accessories to accommodate the various configurations of rack equipment a given user might need. For example, to keep the façade of the unit uncluttered, it includes 1U, 2U, and 3U cabinet front cover plates, and 1U and 2U cable management rack kits help keep cables tucked out of the way, contributing to better airflow as well as aesthetics.

There are a handful of sliding trays that let users add whatever they need to



the workstation, including a 1U compact sliding keyboard drawer, so users can add a keyboard to the workstation without it getting in the way; a 2U supporting tray; and a heavy-duty sliding tray for heavier items.

With the WG-129, your equipment is protected by multiple layers of power protection, including surge protection, circuit breaker protection, and more. In addition to a six-outlet power strip for connecting several pieces of equipment, the unit features a 10-outlet overload circuit breaker protection PDU and a 14-outlet lightning surge protection PDU.

Claytek offers a limited lifetime warranty on the WG-129, as it does for all of its server cabinets. The WG-129 is in stock and available in the United States and Canada.

CLAYTEK WG-129 MOBILE RACK-MOUNT CABINET

**Description:** A mobile cabinet that minimizes workspace footprint and maximizes utility and storage space; universal fit ensures it can accommodate most rackmount chassis.

(888) 989-1189  
www.istarusa.com



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during the month of May.  
Email [marketing@istarusa.com](mailto:marketing@istarusa.com)  
for the promotion code.

## Report Shows Growing Consumerization Of IT

The rise of tablet computing and the growth of Web applications are affecting businesses, according to a recent report from Forrester Research. These are also the leading vectors of the increasing consumerization of information technology, Forrester says.

“Consumerization is defined variously as using personal devices for work, pay-per-use payment models, spending personal money for work-related cloud services, and employee self-provisioning of IT capacity outside the oversight of IT,” says report author Frank Gillett in a blog post.



Although tablets have been around for a long time, they’ve only come into vogue in the past year following the debut of Apple’s iPad and now the recently released iPad 2. Worldwide penetration

is already 3% in SMBs that have fewer than 1,000 workers, according to AMI-Partners, which sees the strongest interest in professional services, healthcare, hospitality, and the media businesses. Among larger companies with 1,000 or more employees, Forrester says, it took only six months after the iPad launch for 26% to buy (or plan to buy) tablets.

The Benefits Are Many

Besides their noteworthy ease of use, touchscreen tablets’ processing power and other features make them attractive for businesses as they outfit workers with

mobile tech, according to Mohit Bhushan, vice president of product management for Motorola Mobility. A dual-core CPU can handle multiple demanding tasks simultaneously, he says, while a Web cam enables video chat.

Upgradeability can make a tablet even more enticing to businesses, Bhushan says. For example, “Tablets on the Verizon Wireless network will feature LTE support via a free upgrade in Q2, delivering data speeds up to 10x faster than today’s 3G networks as Verizon . . . rolls out 4G service nationwide,” he says.

Of course, as consumer devices become more prevalent, so does the

need to secure them. “Centralized device management will still matter in a world that increasingly uses Web-based applications and will expand to include a greater variety of devices,” Gillett writes.

As for Web apps, other AMI-Partners research indicates that companies with tablets use SaaS applications 20% more. At the same time, Forrester’s Gillett says 84% of businesses are increasing their use of consumer-style Web apps. Still, 55% are also adding or standing pat on locally installed apps, with only 4% seriously reducing their use, he adds.

by Marty Sems

News



BUYING GUIDE



BUYING TIPS:  
Power Protection

by Seth Colaner

IT’S EASY TO TAKE power protection for granted. We do it all the time in our homes, plugging expensive electronics into the wall outlet without a moment’s reflection on what might happen in the event of a power surge or outage. Usually, the worst-case scenario is that a computer or HDTV gets fried and we learn a thousand-dollar lesson, but IT and data center managers can’t afford to learn about power protection the hard way. They need to be prepared with the right power protection tools, such as a UPS (uninterruptible power supply), to keep their equipment and networks safe.

Brad Walter, director of applications and system development at Active Power ([www.activepower.com](http://www.activepower.com)), gives some insight into what to look for when purchasing power protection.

Buyers’ Checklist

- ✓ **Cost benefit analysis of higher-end UPS systems.** You can’t skimp on features to save money, but it’s also a disservice to be inadequately covered.
- ✓ **Ensure proper maintenance.** Consider whether your UPS system is simple enough to be maintained by in-house employees or if it should be maintained by a third party.
- ✓ **Reliability and availability.** Your UPS solution should be fully able to handle your entity’s workload at all times.
- ✓ **Suitability for the given application in the present and future.** The right UPS should have the capacity and flexibility for your needs, including the ability to handle the maximum load and accommodate future growth.

**Redundancy.** The first step, according to Walter, is determining the amount of redundancy you’ll need to meet reliability and availability requirements. Ensuring sufficient redundancy will keep a system powered virtually no matter what.

He advises maintaining a level of redundancy that provides consistent reliability and availability throughout a system, which requires some common-sense thinking. He notes, for example, that a highly redundant UPS system isn’t necessarily advantageous if everything upstream and downstream is in a single path.

**Consider the whole system.** Regarding reliability and availability, Walter points out that you have to consider the whole system architecture and not just individual system components. He advises against paralleling UPS systems whenever possible, instead opting for a system with multiple independent power paths using large individual UPS building blocks.

Walter also advocates going modular—or, in other words, breaking the load into smaller pieces. UPS modules are available in the megawatt range, so managing loads isn’t much (or any) more difficult using this method than it is with paralleling.

**Dealing with small space.** Spatial concerns are important

Key Terms

- Amp.** A measurement of electrical current.
- Availability.** Refers to whether a system can be used at a given time.
- Current.** The flow of electricity through a conductor, as measured by amps.
- Power.** Voltage times current, as measured in watts.
- Redundancy.** A redundant power setup has enough extra power for a system to ensure availability and avoids the possibility of having a single point of failure.
- Reliability.** How likely a system is to fail. For example, power may be available but not necessarily reliable.
- Voltage.** The electrical potential between two points on a circuit, as measured in volts.
- Watts.** A measurement of power.

to consider when looking for power protection; in smaller IT environments, there simply may not be much extra space to work with at all. But even in huge data centers that span tens of thousands of square feet, space is an issue because instead of plugging in one or two pieces of hardware, it’s dozens, hundreds, or thousands—added up, any one item can effectively occupy a large amount of space. [P](#)

FEATURED PRODUCT

by Marty Sems

PDU Direct Cranks Up The Power

Company Expands Its Server Technology PDU Offerings

**YOU MAY BE AWARE** that PDU Direct is a leading source for data center and IT cabinet power distribution units. What you may not know is how radically the company is changing the balance of power in the marketplace.

PDU Direct has slashed its prices to 10 to 20% below the costs of competing products. At the same time, the company is nearly quadrupling its product line from its sister company, Server Technology.

With new 30-amp units and a wealth of three-phase products, PDUs Direct now stocks complete lines of basic and metered products as well as select switched units. Most are “plug-and-go” devices that ship the next day, although certain SKUs may require a few more days for proper configuration. Here’s a sampling of the new offerings:

PDU Direct

(888) 751-7387  
www.pdusdirect.com

Basic



One of the most exciting new offerings is the CB-12H1-L530 Sentry Basic CDU (cabinet PDU). At \$135, it’s PDU Direct’s lowest-cost 30-amp unit. This 110V CDU is ready for horizontal or 0U mounting along the back rails or cavity space of a server cabinet. Its 12 5-20R outlets are color-coded in black and white, so it’s easy to differentiate the Bussman SC fuse-protected branch circuits at a glance.

Doubling the voltage and outlet count is the CB-24V2-L630 Sentry Basic CDU (\$205), which is a 208V/30A model with 24 C13 industrial outlets. Like its Server Technology brethren, it is built with tough, powder-coated steel. Its 10-foot hardwired power cord terminates in a beefy, twist-lock plug (alternate power cord options are available). This low-density CDU shares the CB-12H1-L530’s Bussman SC fuse overcurrent protection and color-coded branch circuit outlets.

Metered



New among PDU Direct’s mid-density, Sentry Metered CDU line-up is model C-24VDE413-001 (\$620). It’s a three-phase, 208V/30A unit with popular button-and-keyhole mounting provisions. Each of its three power phases has its own LED input amperage display with Digital True RMS current monitoring, so you can easily balance the cumulative load among the circuits as you plug in devices. Its 24 C13 outlets are protected by circuit breakers that are UL-489-rated.

The C-24H2-L30 (\$450) supplies the same number of outlets (24) in a much more compact package, with 12 outlets in front and 12 in the rear. Its C13 outlets provide 208V/30A power from both the front and rear of the CDU. The C-24H2-L30 is 17 inches wide and mounts with standard EIA brackets. You’ll also get an LED read-out on input current, branch circuit fuse protection, and more.

Switched




PDU Direct’s best-selling CW-8H1-C20M Sentry Switched CDU (\$425) comes with full remote power management and environmental monitoring. Ethernet and serial ports allow for SNMP alerts and monitoring via secure IP or RS-232. There’s environmental monitoring support for optional probes that can detect temperature, humidity, and more. The CW-8H1-C20M is a mid-density unit with eight NEMA 5-20R outlets (110V/20A each) and True RMS input current reporting via LED display.



# Power Protection

Product

Active Power CleanSource UPS



Description

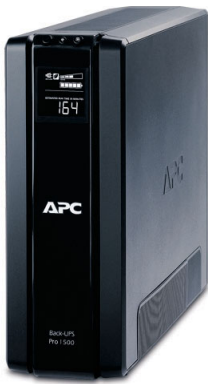
The CleanSource UPS from Active Power is a highly reliable, energy-efficient, battery-free UPS system that uses integrated flywheel technology. CleanSource UPS is designed to protect mission-critical data center operations from both short power disturbances and complete outages. With an energy efficiency of up to 98% and more than 77 million hours of runtime in the field to date, CleanSource creates a predictable, continuous power system designed to ride through power outages to keep critical operations up and running.

- Designed to reduce TCO by 60%
- Battery-free
- Space-efficient
- 75% reduction in carbon emissions
- Continuous voltage regulation

**Best For:** Mission-critical data centers that need highly reliable power conditioning and protection.

Product

APC Back-UPS Pro 1500



Description


The Back-UPS Pro 1500 from APC is designed to offer guaranteed power protection for high-performance computer systems, routers/modems, external storage devices, and other electronics. It supplies battery backup for working through both medium-length and extended outages, and it stabilizes unsafe voltage levels. It provides protection from damaging surges and spikes and allows for the use of management software to get the most out of the unit. Other features include AVR (Automatic Voltage Regulation), an LCD screen, and energy-saving functions that reduce electricity use.

- Power-saving “controlled” outlets
- Automatic Voltage Regulation
- Data line surge protection
- PowerChute software for additional power protection and management features
- External battery pack compatibility

**Best For:** Single or multiple desktop computer systems that require a high degree of reliable power protection.

Product

APC SurgeArrest Home/Office P8GT



Description


The power-saving SurgeArrest Home/Office P8GT from APC is an eight-outlet surge protector designed to not only provide guaranteed protection from dangerous power transients but also help lower your energy bill. Its “Master/Controlled” outlet feature saves energy and money by automatically turning off power to idle computer peripherals. When the laptop, netbook, or desktop computer plugged into the Master outlet is turned off or goes into standby mode, the power to the four Controlled outlets is turned off. Power is then automatically restored when the computer is turned back on or wakes up from standby mode.

- 2,030 Joules of protection
- Eight total outlets
- Power-saving Master/Controlled outlets
- Telephone line surge protection jacks protect the system from transients traveling over phone lines
- 6-foot power cord with right-angle plug
- Lifetime product warranty and lifetime equipment protection policy

**Best For:** Protecting home and office computer systems and other electronics.

Product

General Electric SG Series 10-750kVA UPS



Description


GE's SG Series 10-750kVA UPS is a three-phase unit that offers maximum output performance, efficiency, and functionality with a small footprint. The UPS operates in double-conversion mode; features true continuous online VFI (voltage and frequency independent) operation with integral full-load static switch and internal maintenance bypass; and includes eBoost, which is designed to cut energy use without sacrificing reliability.

- Includes full 24/7 service team support for preventive and corrective services, training, and application expertise
- 99% operating efficiency
- Fused surge protection
- Front access makes maintenance and service simpler
- Superior battery management enhances battery lifetime
- Intelligent energy management integrated
- Redundant parallel architecture

**Best For:** Maximum protection for mission-critical processes.

Product

Rackmount Solutions Minuteman Endeavor UPS Battery Backup



Description

Rackmount Solutions' Minuteman Endeavor series of UPS battery backup products delivers an online uninterruptible power supply in a form factor that can be rack-mounted, placed on the floor as a tower, or installed in a cabinet. With a power factor of 0.8 watts and available with capacities up to 3kVA, the Minuteman Endeavor series features hot-swappable batteries, rapid battery recharging, and extended runtime using external battery packs, and it's also RoHS-compliant. Outlet receptacle control for noncritical load shedding is included. The Endeavor series also includes Minuteman SentryPlus monitoring and control software and a front panel display with status indications.

- Simultaneous RS-232, USB, and SNMP communications
- Three-year warranty with up to \$200,000 in equipment damage insurance
- Manual and automatic testing
- Harmonic distortion control
- Dedicated emergency power off port


**Best For:** Any situation where form factor flexibility is needed.

**Price:** Starts at \$553

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

Product

Rackmount Solutions Minuteman EnterprisePlus UPS Battery Backup



Description

The Minuteman EnterprisePlus UPS battery backup is a family of line-interactive UPSes from Rackmount Solutions featuring a flexible form factor that can be mounted on the floor, in a rack, or in a cabinet. Other features include a 0.8 power factor; load shedding to extend the time it can support critical applications by rationing power from inactive devices; and simultaneous DB-9, USB, and SNMP communications.

- Independent battery bypass provides voltage regulation even when batteries are weak or dead
- Independent battery pack chargers
- Virtually unlimited battery pack support
- Minuteman SentryPlus monitoring and control software
- Front panel display
- Dedicated emergency power off port

**Best For:** Any situation where form factor flexibility is needed.

**Price:** Starts at \$404.60

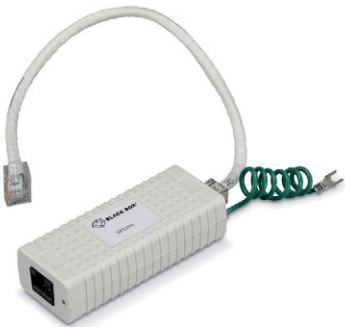
**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)



Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Seth Colaner

## Black Box CAT 6 In-Line Surge Protector



The CAT 6 In-Line Surge Protector from Black Box protects CAT 6 network equipment from lightning-induced power surges, electrostatic discharges, ground loops, and AC power interference. The protector supports network speeds of up to 1,000Mbps for Gigabit Ethernet applications; can be used to protect PCs, switches, and routers; and features state-of-the-art avalanche diode and thyristor technology, with low shunt capacitance to reduce signal loss.

- Protects CAT 5/5e/6 LAN interfaces against power surges, electrostatic discharges, and ground loops
- Supports 10/100/1000BASE-T networks
- Protects any equipment with RJ-45 jacks
- Includes a 10-inch ground wire and a 10.5-inch CAT 6 patch cable

**Best For:** Economically protecting CAT 6 equipment.

**Price:** \$82.95

**Contact:** (888) 433-5049 | [www.blackbox.com](http://www.blackbox.com)

## Black Box CAT 6 Protector Panels



CAT 6 Feed-Through Protector Panels from Black Box are designed to guard against power surges at the rack. The panels feature built-in, all-wire protection on each port to protect equipment and data lines from surges and electrostatic discharge. Designed to meet CAT 6 specs, they can be used in 100/1000BASE-T networks and feature 110 IDC to RJ-45 straight-wired ports. Models are available with 12, 24, or 48 ports, and all models fit 19-inch racks.

- Protect sensitive equipment and data lines from lightning strikes, power surges, and electrostatic discharge
- Panels feature a self-resetting, bidirectional 2,000W circuit
- Failsafe design destroys the port rather than the equipment
- Lifetime guarantee

**Best For:** Economically protecting CAT 6 equipment and data lines in the data center and telecommunications closets.

**Price:** Starts at \$437.95

**Contact:** (888) 433-5049 | [www.blackbox.com](http://www.blackbox.com)

## Gamatronic Power+ Modular UPS System



The Power+ system from Gamatronic is a parallel, redundant, modular UPS with online double-conversion. The user-upgradeable system comprises up to 10 hot-swap UPS modules of 10kVA each, a system controller, static switch module, and distribution block. Power+ is a true online battery in which the inverter supplies the power to the load and takes its power either from the AC input (via the rectifier) or from the battery. The rectifier is controlled to recharge the battery and maintain it in charged condition. The battery features a galvanized connection between the rectifier output and the inverter input on a common DC link.

- High efficiency (up to 96%)
- Small footprint
- Lightweight
- Scalable, flexible, and expandable
- Redundancy and high availability
- High mean time between failure, low mean time to recovery

**Best For:** Situations that call for a small, lightweight, flexible, easy-to-use UPS solution.

## Staco Energy Products FirstLine P 10-100kVA UPS



Staco Energy Products' FirstLine P 10-100kVA UPS is a parallelable three-phase UPS meant for 10 to 100kVA applications. Up to four FirstLine P 10-100kVA units can be run in parallel, providing redundancy with no additional hardware. The units have AC/AC efficiencies of up to 90% and AC/DC efficiencies of up to 94%. IGBT and digital signal processor control provide true online, double-conversion technology. A user-friendly display on the front of the unit includes an alarm; emergency power-off button; and LED indicators for bypass, main line, battery powering the load, load on bypass, and normal output.

- Can be supplied from two separate power sources
- Requires only front, top, or bottom access, minimizing its footprint
- Extended battery cabinets and PDUs are available to match
- Two-year onsite warranty

**Best For:** Computer rooms, network closets, assembly lines, medical facilities, and other applications requiring a high level of available power.

**Contact:** (866) 261-1191 | [www.stacoenergy.com](http://www.stacoenergy.com)

## Staco Energy Products FirstLine P 80-125kVA UPS



The FirstLine P 80-125kVA UPS from Staco Energy Products is a three-phase UPS for 80 to 125kVA applications that's up to 98% efficient. The device uses IGBT (insulated-gate bipolar transistor) and DSP (digital signal processor) control to produce true online double conversion, and up to eight FirstLine P 80-125kVA UPS units can be run in parallel to provide redundancy. The device's user-friendly menu boasts an alarm; an emergency power-off button; and indicators for LED bypass, main line, battery powering the load, load on bypass, and normal output.

- Dual-bus system and dynamic dual-bus system configuration
- Hot-swappable
- Requires only front, top, or bottom access, so it can be placed against a wall
- Two-year warranty and nationwide service program

**Best For:** Applications where a high level of available power is essential, especially in SMEs, hospitals, and education and research laboratories.

**Contact:** (866) 261-1191 | [www.stacoenergy.com](http://www.stacoenergy.com)

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**NEW**  
**PRODUCT**  
that data center/IT  
managers would be  
interested in  
learning about?


Send your press release or  
related product information  
to [press@processor.com](mailto:press@processor.com).



# Fire Protection

Product

Advanced Fire Protection Systems Fire Alarm Systems



Advanced Fire Protection Systems  
Performance Beyond Expectations

Description

AFPS (Advanced Fire Protection Systems) has been installing state-of-the-art fire alarms for years, and the models are often integrated with access control, CCTV, and security management systems. AFPS also offers a variety of services and capabilities to span your fire system's entire life cycle.

- Consultation and design
- Turnkey project management
- Installation
- Certification and operator training
- Inspection and preventive maintenance
- Central station monitoring

**Best For:** Enterprises looking for a company that can handle the end-to-end installation and maintenance of fire protection.

Ansul Sapphire Fire Suppression System



Ansul's Sapphire Fire Suppression System is a fixed-nozzle system that uses 3M's Novec 1230 fire protection fluid to quickly quell fires without causing harm to sensitive equipment, people, or the environment. The Novec 1230 is stored in cylinders in a fluid form, and upon discharge, it instantly vaporizes as it absorbs heat to protect spaces. Every Sapphire system is custom-engineered for the specific application using the most effective and efficient arrangement of storage, actuation, distribution, and discharge components.

- Meets NFPA 2001, so it's safe for occupied spaces
- Capable of automatic detection and actuation or remote manual activation
- Effective on class A, B, and C fires
- Meets UL/ULC, FM, and other international approvals
- Zero ozone depletion

**Best For:** Areas where an electrically non-conductive medium is required, as well as environments where electronic systems cannot be shut down in an emergency.

Fike SigniFire IP Video Flame & Smoke Detection Camera




The SigniFire IP represents a family of turnkey flame, smoke, and intrusion detection camera solutions that visually detect the presence of fire or smoke at its source, independent of airflow in the area. This technology offers a critical advantage for early warning fire detection, identifying and reacting to fire, and protecting lives and property.

- Detects flame in seconds
- Supplies vital, situational, live video to remote locations
- Provides video surveillance capabilities
- Triggers fire alarm systems
- Provides prerecorded video forensic evidence for future fire investigations

**Best For:** Enterprises looking to identify smoke in large spaces and have video evidence for insurance purposes.

Product

Marioff HI-FOG Water Mist Fire Protection System




Description

The HI-FOG system from Marioff discharges a fine water mist at high velocity to suppress and extinguish fire. This setup can be used in place of deluge, gas, foam, dry chemical, traditional sprinkler, and other types of fixed fire protection. HI-FOG uses up to 90% less water than a conventional sprinkler system, which means cleanup is fast and business downtime is kept to a minimum. Fire, water, heat, and smoke damage are minimized, as well, and it stops the fire from spreading or reigniting. A typical HI-FOG system in a data center consists of a high-pressure pump unit, a small water supply tank, section valves, small-diameter stainless steel tubing, and HI-FOG sprayheads.

- Uses a three-prong approach: cooling, radiant heat blocking, and local oxygen inerting
- Offers total facility fire protection to simplify maintenance and deliver cost savings
- Minimizes business disruption because system discharge is localized at only the point of the fire
- Use of various system configuration points minimizes risk of leakage and false discharges
- Spaces will not need to be evacuated or closed off for HI-FOG to be activated
- Can be easily expanded to new phases of a data center facility
- Supports environmentally sustainable design

**Best For:** Organizations that want a system that covers all of their fire protection needs.

Periphman Aero-K




Periphman's Aero-K fire suppression system uses potassium-based aerosol generators that can extinguish a fire in seconds. The aerosol won't harm electronics or electronic media such as tapes and disks or the health of facility personnel. Aero-K aerosol generators are compact and easy to install and feature multiple smoke detectors that limit the chance of accidental discharge.

- Won't corrode steel, plastic, nickel, brass, zinc, copper, aluminum, or other commonly used composites
- Leaves little residue after venting
- Ecologically friendly with no agents that can harm the ozone layer
- Control panel with battery backup in case of power outage

**Best For:** Information technology and telecommunications industries.

Polargy PolarPlex Drop Away Panels



One of the big challenges with air management products is maintaining data center fire safety without sacrificing visibility in the aisles. Polargy's PolarPlex Drop Away Panel addresses those challenges. The panels are the only ones on the market with a UL listing for use under sprinkler heads. With an activation temperature of 135 degrees Fahrenheit, the panels fall to the floor in the event of a fire, so the ceiling-based fire suppression system can operate free of obstructions.

- Custom made to order
- Lightweight and easy to install (a 2- x 4-foot panel weighs only 7 pounds)
- Panel insert material is a special transparent plastic, allowing light to pass through
- Each panel is 0.013 inches thick and slots into an extruded 1-inch anodized aluminum frame

**Best For:** Data centers that need to seal the top of a hot or cold aisle while still allowing a fire suppression system to work as needed.



PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Nathan Lake

## Fireaway Stat-X Thermal Units



Stat-X Thermal Units from Fireaway emit an ultra-fine potassium-based aerosol that won't harm sensitive electronic equipment or magnetic media. Thermally operated units integrate a thermal detector that automatically activates the unit in the event of a fire. Thermal units can also be manually activated. Thermally operated units have a low installation cost, are virtually maintenance-free, and have a shelf life of more than 10 years.

- Easy installation that doesn't require pressure vessels, piping, or installation manpower
- Occupies less space than other extinguishing agents
- Environmentally friendly with zero ozone depletion potential
- Favorably reviewed by EPA for SNAP listing

**Best For:** Electronic cabinets, data processing equipment, and printing equipment.

## Firelock Modular Server Vaulting



With Firelock's Modular Server Vaulting, you get a custom-designed vault that's built to suit your needs. A Firelock modular vault is an enclosure with integrated environmental monitors and fire suppression components, which makes it easier to protect the contents from a fire on the outside. The vaults protect your valuable components from fire while you monitor the servers and equipment from a remote location.

- Class 125 four-hour rated vault door
- Smoke- and heat-activated hydraulic door closer
- Environmental/alarm monitoring
- CCTV surveillance
- Novec 1230 fire suppression
- Watershield roof deck
- Fire-rated electrical cable trays
- Master power switch

**Best For:** Enterprises that want to ensure mission-critical operations by protecting key equipment in an isolated, secure, and fire-protected area.

## FireXonline OnGard



The OnGard fire protection system from FireXonline consists primarily of a tank filled with fire-suppressing agent. A tube connected to the tank delivers the suppression agent directly to a potential fire site, such as the inside of a rack enclosure. When a fire is detected, the tube will rupture and release the agent into the area. Extinguishing a fire at the source may eliminate the need to discharge a computer room's larger suppression system.

- Penetrates hard-to-reach areas
- Detects and extinguishes fires in less than 10 seconds
- Reduces downtime caused by data center fire

**Best For:** Data centers, computer rooms, and communications facilities.

## TechXact Fire Prevention System



TechXact's Fire Prevention System actively prevents a fire from starting by controlling the oxygen content of the room. The reduction is precise enough that there's not enough oxygen for a fire to start, but enough that people can enter the room and stay without any side effects. The oxygen reduction is aided by nitrogen, which can be generated in a cost-effective manner onsite or using an air processing system.

- Provides certainty of avoiding outbreak and spread of fire
- Permanent and preventive fire protection to secure business processes and valuable goods
- Avoidance of further damage from smoke, spread of fire, or extinguishing agents
- Problem-free adaptability to changes in fire risk
- Cost savings at the construction stage of fire detection measures
- Personnel retain access to protected areas

**Best For:** Environments where availability is the top concern or situations where a fire risk must absolutely be eliminated.

## Victaulic Vortex



The Victaulic Vortex fire suppression system is the world's first-ever hybrid (water and inert gas) fire extinguishing system that extinguishes fires without the use of any toxic chemicals by deploying a high-velocity, low-pressure mixture of nitrogen and water. The system delivers as little as one gallon of water per emitter per minute, and each emitter can protect up to 2,500 cubic feet. The system is compatible with facility fire protection systems to provide greater design flexibility, and it is recharged rapidly allowing for a return to working conditions almost immediately after a fire.

- Nearly zero wetting of protected areas
- No ozone depleting or greenhouse gas emissions
- Quick system recharge to support minimal facility downtime
- Protects people and assets

**Best For:** Protection of enclosed cabinets and isolated equipment within protected spaces.

## Xtralis VESDA ASDs



VESDA early warning ASD (aspirating smoke detection) solutions from Xtralis provide continuous air sampling to give you the earliest possible warning of an impending fire. VESDA ASDs buy time to investigate an alarm and initiate an appropriate response to prevent injury, property damage, or business disruption. VESDA detectors have multilevel warnings and a wide range of sensitivity that does not degrade or change over time, so even minute levels of smoke can be detected before a fire has time to escalate. VESDA ASDs come in a variety of models to provide early warning smoke detection for a broad range of applications and environments of different sizes—from data centers to large, open spaces and even harsh environments.

- VESDA sampling points can be placed at the return air grill or inside equipment cabinets to detect smoke as it is carried by the air
- Detectors can also be mounted in accessible locations for easy maintenance
- Dual-stage filtration ensures that detectors function reliably in extreme conditions and dirty environments
- Allows for early intervention to prevent suppression releases

**Best For:** Areas in which smoke is difficult to detect, such as in a server room.



■ **DoJ Regulates Microsoft Purchase Of Novell Patents**

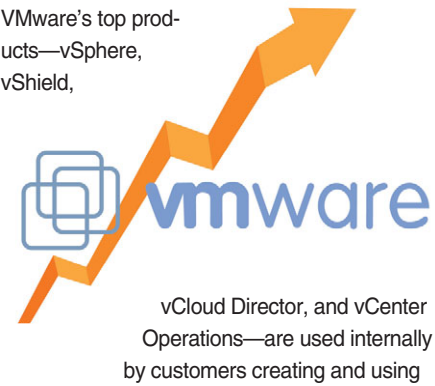
The U.S. Department of Justice has announced that Microsoft will not be able to keep patents it was in the process of buying from Novell through Microsoft's CPTN Holdings consortium. Novell, which distributes the SUSE Linux operating system, has agreed to change its proposed deal in an effort to satisfy DoJ concerns about the possible impact on open-source software. The new agreement requires Microsoft to sell the Novell patents back to Attachmate, which announced in November that it was merging with Novell; in turn, Microsoft will receive a license to use those patents, as well as patents acquired by the other three owners of the Microsoft-sponsored consortium.

■ **Computer Science Enrollments Continue Upward Trend**

Enrollments in computer science programs have increased for the third straight year, according to the most recent Taulbee Survey conducted by the Computing Research Association. Last year, the total number of students enrolled in computer science programs was up 10%, which the CRA believes points to an end to the post-dot-com crash in enrollments. Bachelor's degree production in computing programs was up about 11% between 2009 and 2010; women accounted for 13.8% of those degrees, while minority students accounted for 10.3%. Ph.D. and master's degree production remained relatively flat from 2009 to 2010.

■ **VMware Earnings Jump**

Signaling enterprises' continuing interest in virtualization and cloud-based IT, VMware reported that its profits jumped 60% in Q1 2011 to \$125.8 million, or 29 cents per share, and revenue jumped 33% year over year to \$844 million. VMware's top products—vSphere, vShield,



private clouds and also by service providers in public clouds, reflecting a hybrid approach that VMware CEO Paul Maritz says will be the way most enterprises adopt cloud computing. VMware's offerings include technologies gained as a result of the company's acquisitions of Integrien and of EMC's Ionix portfolio.

■ **Apple Earnings Beat Expectations Handily**

Apple had a blockbuster quarter for Q1 2011, posting \$6.40 per share on revenue of \$24.67 billion and raising sales 83% from the same time last year, beating analysts' predictions of \$5.37 per share on sales of \$23.38 billion. Despite the growth in sales, however, Apple's tablet sales fell just short of expectations: 4.69 million units were sold, while analysts expected about 6.3 million tablet sales; however, Apple attributes the lackluster sales to supply, not demand, claiming it sold every iPad 2 it was able to manufacture.

■ **Report: Tablet Market Will Be Big By 2015**

According to research firm Strategy Analytics, the global tablet PC market will be worth \$49 billion by 2015. Over the next four years, tablets are expected to explode in popularity and become one of the most popular consumer electronics categories, behind only TVs and PCs. By 2015, the firm predicts an 800% increase in tablet sales compared to 2010 to 149 million units. The top tablet in 2015 will still be Apple's iPad, according to Strategy Analytics, followed by tablets from Samsung.

# Remote Access Myths

Don't Let Misconceptions Keep You Away From Remote Access Benefits

by Carmi Levy

• • •

**AS WORKFORCES** become ever more decentralized and mobile technology asserts its place in corporate infrastructure, remote access solutions are rapidly becoming must-haves for IT planners.

As popular as remote access has become, however, persistent misconceptions—including security and manageability concerns—are causing some shops to either shy away entirely or fail to realize the technology's full potential. A closer look at some of these myths could prompt decision-makers to make remote access solutions less remote after all.

**Large-Scale Projects Are Impossible To Manage**

Early-generation network management suites worked well within the corporate firewall but tended to stumble when coverage extended to network resources outside the WAN. Although better management technology now makes remote access an easier sell within security-conscious organizations, they do themselves no favors by failing to manage planning and implementation effectively.

“This myth originates from organizations that have too many departments

suites were often deliberately stripped down for remote consumption.

“It used to take an hour to download an update,” says Bob Kelly, senior product manager at Dell KACE ([www.kace.com](http://www.kace.com)), “and there were concerns that a disconnection would repeatedly interrupt such a process causing both performance issues and download failures.”

Kelly says widespread availability of high-speed connections is changing this reality, giving remote workers performance consistent with those directly on the corporate LAN.

“Sure, if the user is dialing in from a plane, remote management can be an issue,” Kelly says. “But soon they will probably be at home or in a hotel where Internet access is not only high-speed, but persistent.”

**Clientless VPNs Are True VPNs**

They aren't. Despite the fact that clientless solutions are often pitched as lower-cost, lower-maintenance alternatives to full-on VPNs, the trade-off is a feature-limited gateway into the corporate network, with bare-bones access to relatively few applications.

“By definition, this is not a VPN,” says Pierluigi Stella, CTO of Network Box USA

“‘Virtual private network’ means that you become part of a virtual network, where you can communicate with your company’s network and the other users as though you were inside the LAN.”

- Network Box USA's Pierluigi Stella

involved with installing a remote access solution,” says Martin Hack, executive vice president of NCP Engineering ([www.ncp-e.com](http://www.ncp-e.com)). “This is also known as too many cooks in the kitchen.”

To overcome this, Hack recommends picking one team to take the lead and shoulder full accountability for remote access. Security, networking, or systems administration teams are all candidates for the job, and Hack says there's little reason to pick any one over the others, as they're all equally qualified.

**Poor Connectivity Makes Remote Access A Non-Starter**

Years ago, bandwidth constraints made remotely connected workers feel like second-rate citizens. Off-campus network speeds were so slow—and connectivity so inconsistent—that updates were pushed out sporadically, if at all, and application

([www.networkboxusa.com](http://www.networkboxusa.com)). “‘Virtual private network’ means that you become part of a virtual network, where you can communicate with your company's network and the other users as though you were inside the LAN, at the office. A clientless VPN, on the other hand, is basically no different than a Web-based application using HTTPS and requiring login credentials.”

Stella says both approaches have their merits. HTTPS-based connections, for example, may be preferable in large-scale deployments where external customers or vendors access a limited range of applications, such as online billing. More robust needs, however, demand more robust solutions.

“If the users connecting are my employees and I do not know beforehand where they will need to go and which internal computers they need access to, then a client-based VPN will be most likely more suitable to my requirements,” Stella says.

**Key Points**

- Implementation, training, and documentation costs can be offset by recruitment and collaboration advantages as well as real estate savings.
- Properly configured remote access solutions can be every bit as secure as inside-the-firewall LANs—even when using public Wi-Fi hotspots.
- Widespread broadband availability gives remote clients ample bandwidth and persistence to handle the most demanding applications and services.

**Remote Access Is Too Expensive**

This particular myth does have some truth to it—but only some. VPN software is relatively inexpensive, but once roll-out, training, documentation, security, and operational costs are factored in, bottom-line costs can turn a small-scale project into something much more significant.

Thankfully, IT can limit the bottom-line damage by selecting automated remote access solutions that minimize the need for IT administrative and support overhead. NCP Engineering's Hack says simplified interfaces can also streamline training and documentation needs. Intangible benefits, such as more flexible recruitment, enhanced collaboration, and reduced real estate and utility costs, can further offset the initial investment.

**Using VPNs From Public Hotspots Is A No-No**

Persistent horror stories of consumers in search of free Wi-Fi suffering drive-by attacks at local coffee shops have prompted many organizations to ban employees from using public networks entirely.

“People think it is unsafe and costs more to allow access on public hotspots,” Hack says, “but this isn't so.”

Any mainstream VPN solution provides strong encryption that renders any traffic useless to even the most determined coffee shop snooper. Hack says VPNs with centralized administration tools allow administrators to configure personal firewall rules and prevent end users from changing or deactivating safeguards. Centralization also offers greater flexibility for administrators.

“Of course, different environments call for different firewall rules,” Hack says, “but the administrator can tweak these as necessary.”

**Remote Access Solutions Allow IT To Spy On End Users**

Although some solutions can be configured to quietly keep tabs on client-side activities, Dell KACE's Kelly says organizations rarely take advantage of such capability out of fear of being perceived as “Big Brother.”

“Most every solution on the market provides a number of optional indicators to the user,” he says, adding that these indicators can include pop-up messages requesting permission to flashing system tray indicators. Such capability can make remote access an easier sell to end users, which can further enhance productivity. P



HOW TO

# Select The Right Network Monitoring Solution

## The Best Eyes For Your Enterprise

by Brian Hodge

• • •

**NETWORK MONITORING** is like the sentry on the castle wall—your first source of news about potential trouble. Yet in the experience of Michael Tavares, director of engineering at monitoring service provider Integration Partners, most enterprises paradoxically approach monitoring as an afterthought. Here’s how to treat your selection of a monitoring solution like the high priority it should be.

### The Starting Point

Before you ever begin evaluating monitoring solutions, you need to ask a couple familiar questions: What are we specifically trying to accomplish? What IT and business metrics are we trying to improve?

For instance, at the IT level, “it could be time to resolution, to resolve a [support request] ticket,” says Steve Francis, CEO of software vendor LogicMonitor ([www.logicmonitor.com](http://www.logicmonitor.com)). “The impact of that from a business point of view could be that the salespeople have higher uptime by two hours a month, and that lets the salespeople make more calls.”

Integration Partners’ Michael Tavares ([www.integrationpartners.com](http://www.integrationpartners.com)) breaks down the preliminary assessment this way: Determine what your key systems are and where risk exists from system failure, and then interview end users, business unit leaders, and system managers to identify and analyze the organization’s monitoring requirements.

### In-House Or Outsourced, That Is The Question

The choice of going with monitoring software or a service provider will largely be influenced by two key factors: the uniqueness of your company and its needs, and whether you have the internal resources to mount an adequate response to alerts. “If you’re doing purely standard things, like you’ve got Exchange, you’ve got EAGLE server, or whatever, it probably makes more sense to externalize that support and cost,” Francis says.

However, this doesn’t matter so much from the monitoring perspective itself, but rather in terms of response to the inevitable needs that monitoring alerts you to. “Unless you’re a big enterprise, you’re only going to have one Exchange guy,” Francis explains. “He’s going to go on vacation, and then even if you’ve got a fabulous monitoring system telling you your database indexes need to be rebuilt, you’re not going to have anyone else who knows what to do with that.” But if that same alert goes to an external service provider, they’re on-call 24/7/365. This won’t change, regardless of how many changes your enterprise undergoes.

Tavares adds that in-house monitoring systems require multiple full-time employees to effectively manage and maintain them, which makes them vulnerable to budget cuts and staff reductions. Thus, external monitoring can help sustain operational integrity throughout times of feast as well as famine.

But suppose you’re going beyond standard systems and activities, and your infrastructure is highly customized. Then an in-house software solution may make more sense. Francis advises that it can be difficult to outsource support for configurations involving, for example, customized Web applications and multitiered architectures where different storage volumes have greatly varying requirements for latency and other services.

### Features To Look For

Compiling a features checklist isn’t the ideal approach to picking a specific monitoring solution. There may be multiple ways of achieving IT and business goals, some better than others, and often the vendor will be in the best position to determine what’s optimal for your needs. Still, some features will likely make life easier in any situation.

**Baseline features.** Francis’ top priority in monitoring software is the ability to fine-tune alerts: globally, at group and sub-group levels, even for individual elements, for changes in thresholds and escalation periods, and so on. This is to avoid being bombarded with low-priority alerts. “Alerts overload leads to people ignoring alerts, which negates the whole point of having a monitoring system,” Francis says. Also crucial is the ability to react to alerts easily, quickly, and remotely if needed.

Tavares suggests looking at a monitoring system’s flexibility in integrating with your environment, and mentions several technical considerations. “Being able to tie into your existing authentication services may be nice to have, but integration with your ticketing or CRM utility may be more critical,” he says. As well, “Enterprises should

not assume that the monitoring service provider has the basic capabilities of importing SNMP MIBs to monitor and control any devices. Other technical issues of concern go into IPv6 and SNMPv3 support and even Syslog data. The monitoring service should be able to deploy onsite data collectors, taking in Netflow-, JFlow-, or IPFix-type application performance data that can be collected at the network level.”

**Advanced features.** Additional features you may require include automated


### Key Points

- The selection process should begin with identifying the IT and business metrics you want to improve.
- The uniqueness of your environment and internal staff resources are two key factors influencing the choice between in-house and outsourced monitoring
- Among the most vital features of a monitoring solution are the ability to fine-tune alerts and its flexibility in integrating with your environment.

discovery and provisioning of new hardware and applications; the ability to enable platform- and product-specific options; the ability to map and determine an end user’s quality of experience; and the ability to run “what-if” simulations to gauge the impact of deploying new applications.

**One feature to treat with caution.** Some network monitoring software includes automated recovery functions that take over in the event of a system failure. This may sound like an enticing safeguard, but it’s usually unwise to rely on it, as it could ultimately have disastrous consequences.

“If your core database crashes, you probably want to know why before you blindly turn on another one and replicate those bad statements out to all your replicas, and corrupt your customers’ data,” says Francis.

However, Francis says automated recovery could still be appropriate in defined cases where minor failures are expected and there’s a single, simple fix. For example, if a leak in a process causes its memory space to get too big, this can be addressed by killing the process and starting another one. 



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# Network Considerations For Cloud Computing:

## Security & Bandwidth Concerns Are Tops When Moving To The Cloud

BY HOLLY DOLEZALEK

WHEN IT COMES TO COST SAVINGS, moving to the cloud is the new black. But those savings will dwindle if you're not prepared for the demands the move will place on your network.

### Simplify Your Security

Moving to the cloud doesn't mean leaving security behind; in fact, network security requires even more attention in the cloud. Mike Tavares, director of engineering at Integration Partners (www.integrationpartners.com), recommends simplifying security options as much as you can. "To enhance your overall simplification strategy, security services should be consolidated and virtualized," Tavares says. "Data center security services such as application-aware denial of service, firewall, intrusion detection and prevention systems, and the VPN can be consolidated on a security platform to provide the

flexibility and efficiency required to dynamically assign resources to the services." Additionally, Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com), advises against considering a product that offers remote access to cloud servers without a VPN. "I cringe every time I see that," he says. "None of these products can guarantee the same level of access security as a VPN." As with every cloud initiative, you have to consider how secure the data you're putting in the cloud needs to be. If it needs to be secure—and what data doesn't?—then Stella recommends using a product with an SSL VPN connection that requires a private

certificate and key. "An application like RDP [Remote Desktop Protocol] simply requires a login ID on the server and an open port in the firewall," Stella says. "Hence the security of your server at that point is only as strong as your weakest password. Remember, hackers have all the time they want and know all the tricks. If you expose a login ID to them, sooner or later, they'll find a way in."


### Take Bandwidth Into Account

LANs move at high speeds, but remember that you connect to the cloud via your Internet link, which is almost never as fast. "When you move your servers to the cloud, consider how relevant access speed is for your users," Stella says. "If it is very relevant, keep the server in house until you can guarantee a very high-bandwidth Internet connection." This is true whether you're moving to your own internal cloud or using a cloud services provider. "If you are moving functions to a cloud services provider, it's key to understanding the bandwidth needed to support the particular applications," says Bill Abram, president of Pragmatix (www.pramatix.com). "That means not just the amount of bandwidth, but the quality of it, and—depending on the application—having redundant bandwidth connections to the provider." Match Workloads To Possibilities Keep both bandwidth and latency in mind when you're considering which workloads to move to the cloud. "It would not make sense to run a large-scale analytics job that has dependencies on internal networks and storage in a cloud cluster 2,000 miles away," says David Powers, senior analyst for business development at Cycle Computing (www

.cyclecomputing.com). "The large volume of data would saturate many company Internet connections with a single workload, and that's not a very efficient use of the company Internet connection." Where inefficiency isn't the problem, latency might be, Powers explains: "Many of these workloads have strict latency requirements, and it simply would not make sense to have a job running on the West coast of the U.S. while having to talk in real-time to internal systems on the East coast." Regardless of efficiency and latency issues, you'll have to consider spikes in activity and plan for them. "If you are implementing a cloud solution, you have to do design and capacity planning for workloads, particularly bandwidth bottlenecks or input/output 'storms' that can occur at certain times of the workday, such as when hundreds of employees may all be logging in between 8:30 and 9 a.m.," Abram says. [E]

## Best Tip: Don't Forget Your Backup Plan

If your ISP connection goes out and you can't connect to your servers in the cloud, what will you do? Don't forget that your own connection can affect the very continuity of service you're hoping for. "We move to the cloud because this guarantees redundancy and continuity of service, but we forget to get a second Internet link for our own LAN," says Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com). "Either get a secondary ISP or do not move to the cloud those servers that are fundamental for your users' productivity."




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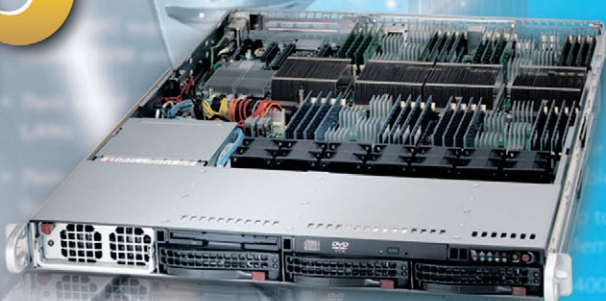
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**Regulatory Compliance Outlook**

Regulatory compliance. Two words that can mean headaches for IT staff. Here's an update on the latest regulations and what you need to know to prepare.

**Regulatory Compliance Update | 26**

■ As IT managers strive to create easier access to data for employees at their organizations, they have no choice but to remain perpetually cognizant of rules that may prevent their intended goals.

**Regulatory Compliance & The Cloud | 27**

■ As companies consider moving data and applications to public cloud services, one big hurdle stands in the way: compliance.

**Understanding Compliance Time, Needs | 28**

■ Regulatory compliance is a never-ending process, and sometimes it feels that way. Finding ways to increase staff skills and decrease time requirements can help, however.

**A Look At Common Regulations | 29**

■ There's hardly an industry in existence that isn't subject to multiple layers of regulatory oversight. The result is an alphabet soup of regulatory acronyms.



# Regulatory Compliance Update

An Inside Look At The State Of Today's Hot-Button Issue

by Christian Perry

**EVOLUTIONARY ADVANCES** in technology are extending the reach of data to millions of people around the globe, and organizations are now under the gun to comply with strict regulations that seek to protect sensitive information. As IT managers strive to create easier access to data for employees at their organizations, they have no choice but to remain perpetually cognizant of rules that may prevent their intended goals.

“The landscape for regulatory compliance here in the U.S. and around the world, particularly as it relates to the protection of sensitive data, has seen significant changes over the past few years, with stricter laws and regulations being put in place, broader applicability of those regulations, and a renewed focus by regulatory authorities on enforcing said laws,” says Sean Glynn, vice president of marketing at Credant Technologies ([www.credant.com](http://www.credant.com)).

A rash of highly public breaches in recent years has narrowed governmental focus on the transfer and protection of data among organizations of every size. The days of laissez-faire data management have been booted straight to the curb by regulations that threaten big penalties if not followed precisely as directed. And if you think you have a good handle on regulations now and for years to come, think again, because more changes are on the way.

## All Eyes On Privacy

According to Scott Wisniewski, director of product management and professional service delivery for Protiviti ([www.protiviti.com](http://www.protiviti.com)), businesses have

### Key Points

- Due to high-profile breaches, increased social awareness around privacy has spurred agencies to tighten regulations over recent years.
- Although companies are always concerned about damage to their reputation in the face of a breach, government fines also likely will keep companies on top of compliance.
- Regulatory compliance is a work in process, so companies should expect more regulatory changes in the near future as agencies look to better protect sensitive information.

always had to manage against an ever-changing set of regulations. These changes are no doubt spurred in part by political leanings, but instead of looking primarily at the political parties and figures behind the changes, it's important to consider the factors that influence the regulations. For example, social awareness has played a big part in the tightening of regulations over recent years.

Whereas the regulation of financial controls across multiple industries was spawned by high-profile indiscretions of individual companies in the early 2000s, the recent financial crisis has once again turned eyes toward reform of the financial services industry, Wisniewski says. And within the IT industry, privacy management has become paramount as people look to protect their personal and financial identities. In all of these cases, concern over reputation damage for not following regulations is primarily driving the management around these issues, rather than government-imposed fines, he says.

However, fines are undoubtedly weighing on the minds of businesses more heavily than ever, particularly in the face of recent penalties, such as a \$4.3 million HIPAA-related fine for one healthcare provider alone. As Glynn says, regulatory authorities now have “real, sharp teeth,” and they're not afraid to use them. Yet while the tally of fines that make headlines might initially appear shocking, businesses need to remember that the regulations are in place to protect both customers and the businesses themselves. Those businesses with a habit of losing confidential data aren't likely to survive long in a tech-minded world increasingly driven to examine the potential for privacy loss.

## Change Is Imminent

If keeping track of recent regulatory changes seems like an impossible venture, keep in mind that more changes are inevitably on the way. Barbara Rogan, vice president of legal affairs and chief legal counsel for LogLogic ([www.loglogic.com](http://www.loglogic.com)), expects many new regulations on IT data security and privacy. For example, a recent data breach at a marketing services company resulted in customers receiving multiple notifications that their data might have been breached. Incidents like these, Rogan says, will push consumers and consumer watchdog groups to push hard for more regulation.

“Although [the regulatory] trend has been growing quickly over the past couple of years, it is clear that we're nowhere near stopping or even slowing down,” Glynn says. “With new federal regulations expected soon and existing regulations set to be revisited and re-strengthened in the coming years, it is clear that for any organization handling personal or private data as part of their business, it is time to look very closely at their security policies and procedures and at the technologies they have in place to protect that sensitive data.”

According to Robert Thibadeau, chief scientist for Wave Systems ([www.wave.com](http://www.wave.com)), regulatory compliance is a work in progress, and as such, it doesn't work as well in some areas as it does in others. “I think regulatory compliance is too burdensome in some areas and too easy to sidestep in others,” Thibadeau says. “In my public presentations, I often point out to the customers in the audience—the companies that are being regulated—that they should be vocal in making positive contributions. The regulatory community is more attentive now than ever.”

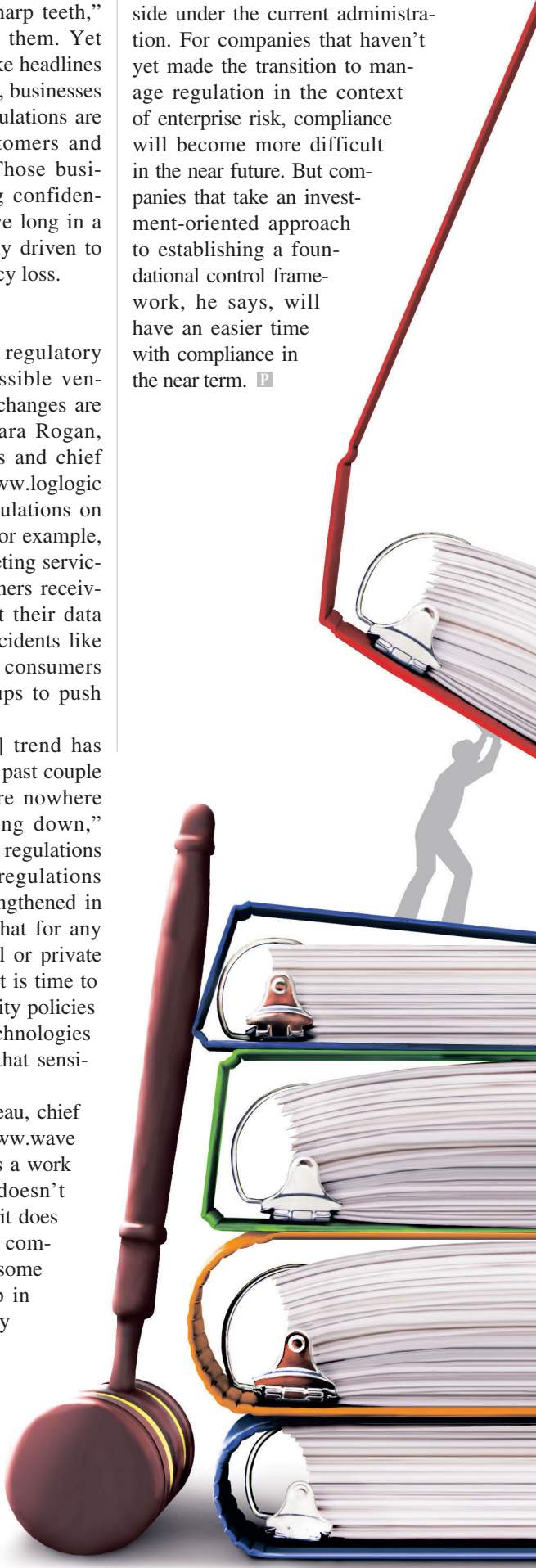
The regulatory weight might seem unbearable at times, but a company's ability to bear that weight will ultimately depend on its approach to compliance. Wisniewski notes that the intense regulation across multiple industries isn't likely to subside under the current administration. For companies that haven't yet made the transition to manage regulation in the context of enterprise risk, compliance will become more difficult in the near future. But companies that take an investment-oriented approach to establishing a foundational control framework, he says, will have an easier time with compliance in the near term. ■

## Keeping Pace With Compliance

Frustration lives a hearty life in the world of managers who try to keep pace with constantly changing regulatory requirements. But there are certain paths that can make this task easier, such as performing an annual enterprise risk assessment that includes the company's existing regulatory framework. According to Scott Wisniewski, director of product management and professional service delivery for Protiviti ([www.protiviti.com](http://www.protiviti.com)), this can help to expose core issues within the company's industry as new regulations appear.

“Another key step is to identify an industry-relevant regulatory content provider and to establish a process of incorporating and evaluating near real-time regulatory updates into the existing risk framework,” Wisniewski says. “In this way, new regulations can be quickly evaluated to assess the impact and related actions.”

Another wise move is talking with your peers in the market, says Sean Glynn, vice president of marketing for Credant Technologies ([www.credant.com](http://www.credant.com)). Although every organization has unique requirements, many ultimately face similar issues and concerns and are willing to discuss the advantages and disadvantages to various approaches to regulatory compliance. He also recommends collaborating with business leaders in the organization to discuss new technologies and approaches that can help businesses stay in line with compliance.





FEATURE PACKAGE

# Regulatory Compliance & The Cloud

The Cloud Can Make Compliance More Challenging, But Not Necessarily Impossible

by Cynthia Harvey

AS COMPANIES CONSIDER moving data and applications to public cloud services, one big hurdle stands in the way: compliance.

A 2010 Harris Interactive poll commissioned by Novell found that difficulty meeting compliance requirements was an issue for 81% of the enterprises considering cloud computing. Depending on their industry, companies may need to comply with Sarbanes-Oxley, HIPAA, PCI DSS, and a variety of other standards.

Although companies must also comply with these measures in a traditional IT environment, cloud computing may make

## Key Points

- No matter what industry you're in, you can probably move some data and applications to the cloud while meeting your compliance requirements.
- Involving security personnel in the vendor selection process and in the contract negotiations can make it easier to maintain compliance.
- Companies can improve cloud compliance with access assurance and data loss prevention solutions.

compliance more difficult. For example, companies are generally required to have adequate policies and procedures in place to control data and application access when people change jobs or leave the company. Kurt Johnson, vice president of strategy and corporate development at Courion ([www.courion.com](http://www.courion.com)), explains that in a traditional environment, IT departments often meet these requirements by simply shutting down network access. However, when employees can access cloud-based data from any browser, controlling access becomes much more complicated.

Similarly, in order to comply with standards, companies often need to know who at the cloud provider might be able to access their data and for what purpose. They need to have some visibility into the infrastructure and security in place at the provider, and they need to be able to audit security practices. Some countries also have geographical limitations that require data to be stored within their borders.

These and other compliance issues present a challenge for companies seeking to use public cloud computing services, but experts say they can be overcome. Following a few key steps can make compliance in the cloud easier.

## Don't Rule Out The Cloud Automatically

Some companies, particularly those in highly regulated industries such as healthcare and finance, may be tempted to refuse to even consider

public cloud computing. But experts say that's a mistake.

"Companies should not necessarily make a reflexive decision," says Bernard Golden, author of "Virtualization for Dummies" and CEO of HyperStratus. "They should really do a more sophisticated analysis to determine of their portfolio of applications, which are the most appropriate for a public cloud environment and which must be held internally," he says. "Every industry has applications that are perfectly suited for a public cloud environment."

Golden adds that companies should "address the easiest cases first. . . . Find the low-hanging fruit."

Johnson notes, "Very rarely can security concerns stop business from moving ahead. If you're a security professional, cloud is a reality, and you need to partner with your business people—not to say 'No, we can't do this,' but to figure out how to do it in the most effective way possible."

## Involve Your Security People From The Start

Involving IT security professionals as early as possible can help companies deal with cloud compliance issues. "When selecting a cloud provider, I think it's really important that security get involved up front. Too often the agreements are signed and there's not enough protection or visibility even into the security of an organization," Johnson says. "In the selection process, security should be partners with the decision makers."

The experts at the Cloud Security Alliance agree. In its "Security Guidance for Critical Areas of Focus in Cloud Computing V2.1," the group recommends, "Security departments should be engaged during the establishment of service-level agreements and contractual obligations, to ensure that security requirements are contractually enforceable."

## Negotiate With Your Cloud Provider

In order to determine whether a cloud provider will be able to meet your compliance needs, you need some visibility into the provider's access control and security procedures. "There's a spectrum of different things that you really need to talk and negotiate about," Johnson says.

He recommends that companies ask their cloud vendors about audit practices and whether they'll be able to conduct their own audits. Companies can ask to see the provider's SAS-70 report, and they can ask that certain practices necessary for compliance be incorporated into the SLAs.

Businesses should also ask about the vendor's relationship with third parties. In a blog post, Forrester analyst Chenxi Wang recounts the story of a client that ultimately chose not

to use a particular cloud provider because of that company's relationship with a backup service provider. She writes, "Although the SaaS provider is located entirely in the U.S., the backup service provider is not." She adds, "third party is often the 'fly in the ointment.'"

## Don't Neglect Your Own Responsibilities

Finally, remember that complying with relevant regulations is ultimately your responsibility, not your cloud provider's. "There are things that you have to do that the provider cannot do that may be required to ensure full compliance," Golden says.

For example, in an IaaS (infrastructure-as-a-service) situation, it's up to the customer to ensure that the applications they run on the cloud provider's hardware use the appropriate level of encryption necessary to meet compliance requirements.

Johnson recommends that companies invest in access assurance solutions that can ensure that "the right people have the right access to the right resources, and they're doing the right things with it." In addition, data loss prevention solutions and the tools and guidance available from the Cloud Security Alliance may be helpful.

The cloud offers "great benefits around cost reduction and ease of administration and even performance," Johnson says, "but don't go in without ensuring these controls are in place."

## Does The Private Cloud Eliminate Compliance Concerns?

As companies weigh the potential benefits of cloud computing against compliance issues, they sometimes consider creating their own private cloud as a way to avoid some of those problems. In fact, Bernard Golden, CEO of HyperStratus, says "[Compliance] is probably the most common reason cited for implementing the private cloud."

However, although building a private cloud might give a company more visibility into what is happening with its data, it doesn't eliminate the need for strong compliance practices. "Private clouds don't eliminate the security concerns by any means," notes Kurt Johnson, vice president of strategy and corporate development at Courion ([www.courion.com](http://www.courion.com)). "Whether it's your employees in a private cloud setting or Google or Amazon's employees in the public cloud, you still need to know what they're doing with your data."

## DARPA Developing Brain-Like Processing Capabilities

The Department of Defense's DARPA (Defense Advanced Research Projects Agency) is in the process of developing technologies for test robots and electronic devices that mimic the human brain. The SyNAPSE (Systems of Neuromorphic Adaptive Plastic Scalable Electronics) program from DARPA is working



with neuromorphic electronic systems that can attempt to understand, adapt, and respond to information like the human brain does. For example, DARPA is developing nanometer-scale synaptic components that can make the connection between two electronic neurons function like biological systems that can spontaneously communicate with each other. Another phase of the project simulates core dynamical behaviors of large networks.

## Global Chip Revenue To Hit Record High In 2011

The Semiconductor Industry Association is expecting the semiconductor industry to hit record highs of \$319 billion this year and \$330 billion in 2012 based on increasing orders for mobile device chips, such as those used in smartphones and tablets. In a report, the SIA says that record revenues were reached last year totaling \$298 billion, a 24% increase from 2009. Helping produce the record numbers are sales of PCs tied to Windows 7's launch and consumers' increasing desire for tablets and smartphones, according to Clark Tseng, a senior research manager at the SEMI (Semiconductor Equipment and Material International) industry group. The demand comes even after Japan's recent earthquake, which has impacted supplies of raw wafers and other materials.

## Yahoo! Posts Q1 2011 Financial Report

Yahoo! released its first-quarter financial report for 2011, which shows revenue of \$1.06 billion (down 6% from the same time period in 2010) and a 24% decrease in GAAP revenue to \$1.21 billion, which the company claims is due to revenue share with Microsoft over search results. Income from operations, however, was up 1% to \$190 million from \$188 million in 2010. Regardless, Yahoo! was certainly busy, launching several new initiatives such as Search Direct, Livestand, the MarketDash app, and AdLabs, as well as a partnership with Omnicom Group.

## Gartner PC Sales Report

According to research firm Gartner, 84.3 million PCs were sold worldwide in the first quarter of 2011, down 1.1% compared to Q1 2010. Gartner had previously forecast 3% growth for this time period. Factors included weak demand for consumer PCs, which even historically low prices couldn't bolster, and the growing popularity of tablet devices with consumers and business users. HP is still the world's top PC maker with 17.6% of the market, followed by Acer (12.9%), Dell (11.9%), Lenovo (9.7%), and Toshiba (5.7%). The top three all lost ground in 2011, although Lenovo saw a 16.6% increase in market share and Toshiba enjoyed an increase of 5.3%.



■ Intel Sets New Revenue, Earnings Records

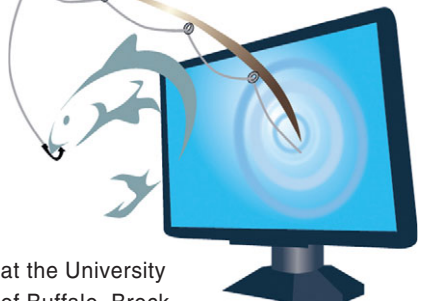
Intel says it's on track for 20% annual revenue growth, now that it's posted record numbers yet again. Its first-quarter results show that the company is already headed in the right direction, posting a 25% increase in revenue (both GAAP and non-GAAP) and a 34% increase in non-GAAP net income (29% GAAP) year over year. Specifically, the company logged GAAP revenue of \$12.8 billion (\$12.9 billion non-GAAP) and earnings of 56 cents per share (59 cents per share non-GAAP) in the first quarter. By division, Intel's Other Architecture group took the lead with a 70% surge in revenue year over year, followed by the Data Center Group's 32% revenue climb. The company's net income was \$3.3 billion non-GAAP (\$3.2 billion GAAP) for the quarter.

■ IBM Posts First-Quarter Gains

Positive financial results have inspired IBM to raise its expectations for its 2011 non-GAAP earnings per share to at least \$13.15 for the full year, the company says. Revenue was up 8% year over year—up 5% adjusting for currency—to \$24.6 billion, the company announced. That put net income up 10% annually to \$2.9 billion on a GAAP basis, or up 13% to \$3 billion non-GAAP. Earnings rose 17% (GAAP) to \$2.31 per diluted share (or 21% to \$2.41 per share non-GAAP). IBM's already enviable gross profit margins swelled half a point to 44.1% (GAAP), or 0.8 points to 44.5% (non-GAAP).

■ Frequent Online Users More Susceptible To Phishing Attacks

Spending a lot of time online can be a recipe for trouble when it comes to avoiding phishing attacks, according to a new study conducted by researchers



at the University of Buffalo, Brock University, Ball State University, and the University of Texas at Arlington. The study shows that people who talk a lot online, conduct numerous transactions there, or spend a lot of time responding to email are the most likely to fall victim to potentially harmful phishing attacks, as researchers say these individuals are more likely to respond to messages without taking the time to see who the emails are from. To avoid being targeted, researchers suggest installing a good spam blocker; using separate email accounts, each with a specific purpose, so that if, for example, a personal email shows up in a banking account, it will stand out; and responding to emails at a certain time each day.

■ Gartner Makes Tablet Market Projections

A recent report from Gartner forecasts that Apple's iOS will be the dominant operating system for the tablet market through 2014. For 2011, Gartner predicts that Apple will own a 68.7% share of the tablet market, with more than 48 million iPad tablets sold, and that 13.9 million tablets will be sold that run a version of Google's Android. In 2014, Gartner expects that Apple's share will drop to 51.8% on sales of 115 million tablets, while Android will increase to 76 million for a 34.2% share of the market. The rest of the market will be split up among other options, such as BlackBerry's soon-to-be-released PlayBook.

# Understanding Compliance Time, Needs

## Make Sure Your SME Has The Staff & Time Needed To Deal With Compliance Issues

by Elizabeth Millard

“**MANY ORGANIZATIONS EXPERIENCE** compliance groundhog days, meaning they find themselves living through the same compliance and audit procedures over and over again,” says Torsten George, vice president of worldwide marketing at Agilience ([www.agilience.com](http://www.agilience.com)).

In terms of average time spent on compliance issues, the Verizon 2010 Payment Card Industry Compliance Report gives examples related to PCI compliance, where the coping process takes about 30 days, gap analysis and remediation take 90 days, and certification takes an additional 60 days. “This illustrates that as soon as one audit/compliance project is done, organizations have to almost start immediately with the preparation for the next audit,” George says.

Sound familiar? Regulatory compliance is a never-ending process, and sometimes it feels that way. Finding ways to increase staff skills and decrease time requirements can help, however.

### Time Bandits

The amount of time spent on compliance depends on which regulatory issues are involved, notes Ken Vander Wal, international vice president for ISACA ([www.isaca.org](http://www.isaca.org)), a nonprofit association focused on developing knowledge and practices for information systems.

“If one considers Sarbanes-Oxley as one of those regulatory compliance issues, hundreds to thousands of hours are spent annually to comply, depending upon the size of the enterprise and its organizational structure,” he says. For example, he adds, a centralized organization with centralized controls may not require the same amount

of time and effort as a decentralized enterprise where controls have to be tested at multiple points.

There's been a tendency to decentralize IT to ensure that user needs are being met more efficiently, Vander Wal says, but this creates additional work when ensuring compliance, so centralizing may be a better option for some organizations.

He adds that Sarbanes-Oxley is one of the regulations that will require the most effort in terms of examining compliance issues and testing them. There are other regulatory compliance laws that are more specific and therefore won't require the same degree of effort, Vander Wal notes.

### Efficiency Through Automation

According to George, compliance time is primarily spent on the following tasks: policy and governance definition and maintenance, data and evidence gathering, gap analysis, and remediation. The majority of organizations still rely on manual labor, email exchanges, and basic spreadsheets to conduct IT audit and compliance projects, and this can eat into schedules, he says.

By employing IT governance, risk, and compliance tools, data centers can centralize policy and governance maintenance, applying any changes immediately throughout the organization, and build a risk-aware asset database that maps to risk models for remediation prioritization.

Developing a repeatable, defensible process is the most crucial element to crafting a time-efficient strategy, notes John Connell, managing consultant in the Electronically Stored Information Consulting Group at Kroll Ontrack ([www.krollontrack.com](http://www.krollontrack.com)). Once a process is in place and functional, it's important to identify data sources and elements that may benefit from a technical or automated solution, he adds.

“Many organizations have implemented archives or searchable repositories for data

### Key Points

- The amount of time spent on compliance depends on which regulatory issues are involved and whether an enterprise's IT structure is centralized or decentralized.
- Compliance time is primarily spent on policy and governance definition and maintenance, data gathering, gap analysis, and remediation.
- Employing automated tools for governance, risk, and compliance can help to ease time and staffing challenges when dealing with regulatory issues.

that are subject to regulatory scrutiny,” he says. “An archiving or discovery repository solution allows you to search for responsive material and quickly locate and extract it for production.”

### Staffing Needs

Monitoring tools can be helpful in controlling and centralizing compliance components, but it's equally important to put a comprehensive staff training program in place, notes Rick Wilson, product manager at Sherpa Software ([www.sherpasoftware.com](http://www.sherpasoftware.com))

“Effectively communicating the importance of the compliance effort, for example, and maintaining records retention policies can boost efficiency,” he says. “Reinforcing that message on a regular basis helps involve the entire organization in the compliance monitoring process.”

Traditionally, regulatory compliance issues are primarily handled either with the use of internal resources—often special hires or redirection of existing staff—or with the help of a large audit firm, according to Joe Coyle, CTO for Capgemini North America ([www.capgemini.com](http://www.capgemini.com)). “In both of these cases, there are massive impacts on the business in terms of time, distraction for operational duties, and the absolute man-hour cost of compliance support,” he says. “More often than not, these costs far exceed budget.”

A strong outsourcing partner can help, and Coyle advises firms to make sure that the vendor can work with staff efforts in an efficient manner. A partner should possess domain-specific expertise and be able to understand the enterprise's business, risk appetite, and existing processes, he notes. ■

## Looking Ahead

One area that's likely to have more regulations in the near future is around environmental controls, according to Kris Domich, principal consultant of data center services at Dimension Data ([www.dimensiondata.com](http://www.dimensiondata.com)). He believes that enterprise data center planners and managers should pay close attention to the development of these types of standards and regulations and include time in their compliance schedules for tracking potential changes.

Even better would be to make changes now that can result in more efficient compliance later. “Energy efficiency begins with a mindset rooted in the desire to waste less,” he says. “This change in the thought paradigm can be assisted with something as simple as an energy audit and a very basic understanding of how much energy and capital is lost to inefficient designs and components.”

Domich adds that an enterprise can also tweak its base infrastructure, such as facilities controls, environmental subsystems, and eventually server and storage deployments. Changes to these types of processes and procedures could speed regulatory compliance around environmental directives when they become law.





# A Look At Common Regulations

Know What You're Up Against When It Comes To Compliance

*by Carmi Levy*  
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**THERE'S HARDLY AN INDUSTRY** in existence that isn't subject to multiple layers of regulatory oversight. Whether they cover information security, on-the-job safety, privacy, or financial behaviors, the growing patchwork of rules ensures a relatively level playing field for all—and recourse for victims of noncompliant organizations.

“Across all industries and geographies, we've seen many major compliance failures where a lot of consumers have been hurt pretty badly because of massive privacy breaches, data theft, health and safety violations, or environmental accidents,” says Chris McClean, senior research analyst with Forrester Research. “The financial crisis is obviously a great example, too. Anytime something like that happens, you'll have regulators and governments get involved.”

The result is an alphabet soup of regulatory acronyms that can be hard to sift through when your organization is under the gun to comply. Knowing what's out there and how it applies to you is not impossible, however.

## The Major Players

Keeping every applicable law on your radar is unnecessary and maybe even unrealistic; however, learning the following major ones might be a good place to start.

**The Health Insurance Portability and Accountability Act of 1996.** HIPAA challenged healthcare providers to implement EHRs (electronic health records) and other forms of easily interchangeable data types. The act contained a number of then-radical provisions to secure patient data and raise privacy standards throughout the healthcare system.

IT has risen to the challenge by driving the transition of paper-based to online tools and implementing industry-wide standards that allow freer flow of data within and between providers, insurers, and patients.

**The Gramm-Leach-Bliley Act of 1999.** GLBA loosened the rules that had previously barred disparate types of financial services companies to merge. The legislation paved the way for a wave of financial industry consolidation and included significant provisions that made it easier for consumers to know who was collecting what private information and how it was being used.

**The Sarbanes-Oxley Act of 2002.** Sarbox was enacted as a direct response to a series of high-profile corporate scandals. The legislation tightened the kind of loose-cannon accounting practices that made the Enron and WorldCom meltdowns possible. In doing so, it reinforced investor confidence that companies were being run properly and that back-room deals weren't undermining market integrity.

“As old as it is and as long as it's been around, it's definitely an area where there's still a lot of IT involvement in driving technology and process changes,” McClean says. “There are lots of questions about how to do compliance better.”

Sarbox challenges IT to implement systems that make accounting significantly more transparent and trackable and has allowed IT to become a true partner to the business in planning and deploying tools and processes that balance compliance with day-to-day efficiency.

**The Payment Card Industry Data Security Standard.** PCI DSS is a global standard that applies to any business that takes in, retains, or otherwise processes credit card payment information. First released in 2004, version 2.0 of the standard was introduced in 2010. This industry-governed standard was a direct response to the growing frequency of credit card-based fraud.

“If a merchant fails to suitably protect credit card numbers, it can not only be fined, but can be denied the ability to accept credit/debit cards,” says Jim Fulton, vice president of marketing at DigitalPersona ([www.digitalpersona.com](http://www.digitalpersona.com)). “This would be a death sentence for many retailers.”

**The Health Information Technology for Economic and Clinical Health Act of 2009.**

HITECH extends many of HIPAA's provisions. Specifically, it raises privacy standards for electronic healthcare data and imposes significant penalties for noncompliance.

## An Ever-Developing Fact Of Life

Whatever the industry and whatever the legislative framework, it's clear that companies will continue to come under growing regulatory oversight. Rapid proliferation of mobile technologies into everyday business and consumer life drives exponential growth in the volume and pace of on-the-move data. As both inadvertent and deliberate data breaches become more frequent, awareness grows.

“What turns the tide is when breaches become mainstream news,” says Stephen Midgley, vice president of global marketing with Absolute Software ([www.absolute.com](http://www.absolute.com)). “When they begin to impact the general population, people start to ask how their personal information is being protected. In many cases, the government's hand will be forced to act,

### Key Points

- Corporate scandal, security breaches, and the recession all drive demand for greater government and industry-sanctioned protective measures.
- Healthcare providers and businesses that use credit and debit card information are particularly subjected to a number of different regulations.
- Regulatory compliance is an ever-growing and oft-changing organism that will continue to develop as new threats and requirements emerge.

which in turn forces the hand of organizations to take better steps to protect corporate data.”

As comprehensive as most legislation has become, however, it isn't complete. Organizations that believe these frameworks provide end-to-end protection for any business scenario could be in for a rude awakening. The recently revealed Epsilon data breach, for example, highlights the risk associated with the lack of a national data breach notification law. While such legislation is already in place in 46 states, it results in a confusing patchwork of rules that are difficult to understand, much less enforce.

“If you're a business operating across multiple states, which act do you abide by?” Midgley asks. “It can be a bit of a legislative and logistical nightmare if you have to deal with a multitude of state laws. This is why federal laws are so important to provide good governance and oversight to organizations.” **P**

## Don't Hide Your Head In The Sand

For any organization subject to regulatory oversight, ignorance is never an acceptable excuse.

“To some extent, some companies are so small that they may be able to hide out in obscurity,” says Chris McClean, senior research analyst with Forrester Research. “But the rules in most cases do apply to them, as well.”

McClean says small companies may be less able to survive a significant financial penalty for noncompliance than a larger organization. For cash-strapped organizations worried about compliance costs, the answer need not come with a large price tag.

“Often, companies don't have to invest a whole lot of extra money in new solutions,” McClean says. “As long as they're adopting some controls on customer and employee data, for example, and as long as they have processes in place and are paying attention to them, they can go a long way toward satisfying the auditors.”

He says eyes-open strategies are always preferable and advises organizations concerned about their status to approach regulators to discuss their particular situations. Although there are never any guarantees, McClean says auditors may show greater understanding toward proactive companies.

## Microsoft's Partner Ecosystem Sees Growth

Microsoft's partner program has created an ecosystem of companies that earned a total of \$580 billion in 2010, which was an increase from \$537 billion the year before, according to IDC. This 8% growth may have been influenced by Microsoft's recent changes to the ecosystem that have put more tools at the disposal of partner companies.

“People are often surprised to hear that Microsoft earns around 95% of its revenue through its partners,” says Darren Bibby, program vice president of software channels and alliances at IDC. “So, the partner program has evolved and gotten better. It is a central point for resources and training, especially marketing and sales training. Because Microsoft is very dependent on partners and partners are likewise dependent on Microsoft for assets and other resources, Microsoft makes changes and does whatever it can to help the partner ecosystem.”

And this dependence had led to a revenue system where partners earn \$8.70 for every \$1 of revenue that Microsoft earns. Bibby says that a large number of these companies are “one- or two-people shops that have minor relationships” to Microsoft, but there are also larger companies that are fairly loyal, as well. This has allowed for the ecosystem to continue growing as current members stay in the program and new businesses join.

Bibby says Microsoft wanted to highlight the partner program's effect on the global economy and to “remind the world how big the partner base is.” And Microsoft's partner system also has a large effect on employment rates as companies in the Microsoft ecosystem employ 6.1 million people, according to the study.



## A True Business Ecosystem

It isn't just Microsoft working with other companies, Bibby says: This program works similarly to a real ecosystem in that larger companies can work with small to midsized companies and share their resources and expertise so that the whole group succeeds. Bibby says that he was most surprised to see just how many companies were working together and how willing they were to help one another.

“The partner program itself makes it easier for the partners themselves to grow revenue,” Bibby says. “The whole idea of the ecosystem is there are a fairly large group of companies working together. Smaller companies can now compete with larger ones. They work with each other and the revenue moves around. There's a real flow of life to it.”

*by Josh Compton*



## Videoconferencing Investments On The Rise, Report Says

In spite of—and perhaps partly due to—a weak economy worldwide, corporate spending on videoconferencing and telepresence solutions will double over the next few years, according to a recent Infonetics report. While sales figures for many technology sectors remained flat, last year’s worldwide revenues for videoconferencing and telepresence technologies hit \$2.2 billion, and surveys indicate that the steady growth will continue.

Behind that growth is a complex constellation of drivers, many tied to the tight economy and to the prevalence of disparate workers located around the country and around the world, many of whom use technology tools to enable various forms of remote collaboration. This still-evolving, highly virtualized workforce helps feed the growing demand for robust collaborative technologies.

“At a high level, geographically dispersed teams are driving video, both as a means to improve day-to-day communication as well as a way to replace some travel,” says Matthias Machowinski, Infonetics’ directing analyst for enterprise networks and video. “The strong growth in 2010 also comes off a weak 2009 due to the recession.”

### A Growing Trend

Videoconferencing has historically been available in the form of simple, freestanding desktop applications used by individuals at their desks and also in the form of more complex conference room setups that allow for multiple simultaneous participants. Growth will occur in sales of both types of products, Machowinski says, but the growth in desktop apps won’t have a big revenue impact because vendors offer those at a very low price. Much pricier conference room setups offer companies expanded functionality while providing much greater margins for vendors.



“Communicating via video continues to be one of the top trends in telecom, as evidenced by strong growth in the enterprise video market,” Machowinski continues. “Businesses worldwide are looking for richer means of communications with their employees, partners, and customers, and enterprise videoconferencing and telepresence solutions are a natural fit.”

For IT and data center staff, the growth in videoconferencing will no doubt help increase the load on IT infrastructures. “Video will have a big impact on bandwidth consumption, and IT managers need to model the impact to see where upgrades need to be made, both in terms of new equipment as well as services, to avoid unpleasant surprises,” Machowinski notes.

Companies around the world are seeking ways to reduce travel costs while facilitating timely and efficient communication, and videoconferencing—now that the technology behind it has matured—has proven a popular and cost-effective solution.

by Rod Scher

# WAN Optimization For The SME

## Get More From Your Connection

by George Crump

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**IN THE PAST**, larger enterprises have used WAN optimization to improve the efficiency of their WAN connections. More recently, SME managers are beginning to use this technology, as well. The interest in WAN optimization is driven by SME IT staff and its increased focus on disaster recovery, the need to try to centralize more services from the remote office, and also the need to empower the remote office. These functions all require WAN connectivity—and the faster the connection, the more successful those initiatives become. Quite simply WAN optimization lets users get more from their current WAN connections.

replicating your Exchange database through your storage system to a remote office, then subsequently back up the Exchange database and replicate the backup job. A WAN optimization appliance with dedication capabilities will not have to send that second copy of redundant data as the solution will have already seen it during the replication job. The result is you get much of the backup replication without using WAN bandwidth.”

Optimization products will also provide some sort of protocol optimization to make the transfer more efficient. For example, some tools will optimize CIFS, MAPI, NFS, and other common protocols that utilize the WAN. “While general byte-level optimization is important, specific protocol optimization can provide an order-of-magnitude

“By focusing on the iSCSI protocol and optimizing it, the WAN optimization solution can eliminate much of the overhead associated with iSCSI.”

-Certeon’s Donato Buccella

The need for increased connectivity speed comes from the increased focus on disaster recovery as well as empowering the remote office through applications. The cost of bandwidth increases disproportionately with the speed of that bandwidth. Through WAN optimization technologies, enterprises can improve the service level of these functions without breaking the bank on bandwidth.

### How It Works

WAN optimization products are ideal for a number of reasons. Most apply some level of deduplication and compression on the data that is sent over the WAN connection. According to Riverbed Technology ([www.riverbed.com](http://www.riverbed.com)) Senior Product Marketing Manager Joe Ghory, deduplication and compression allow WAN optimization to benefit from the data deduplication ripple effect. Ghory says, “If you are

improvement in the performance of key SME applications beyond what can be accomplished by data optimization techniques,” Ghory explains.

Donato Buccella, CTO of Certeon ([www.certeon.com](http://www.certeon.com)), says an ideal protocol for optimization is iSCSI. “Many SMEs are using iSCSI-based storage systems as the core of the storage infrastructure, and many of those systems include the ability to replicate to another iSCSI storage system at a remote site.” As stated earlier, DR is a key focus for many SMEs. “By focusing on the iSCSI protocol and optimizing it, the WAN optimization solution can eliminate much of the overhead associated with iSCSI,” Buccella says.

In iSCSI replication, the packets need to be received in the correct order—and while a receiving storage device can do

### Key Points

- The need for WAN connectivity is on the rise. It is being driven mostly by increased focus on disaster recovery and remote office empowerment.
- WAN bandwidth becomes increasingly more expensive as the speed increases.
- WAN optimization is a way to improve replication speeds and remote office interaction without increasing costs.

this, most devices are inefficient. A WAN optimization device that understands iSCSI can do more efficient packet reordering, and thus requires less bandwidth during storage systems replication. The net effect is that the secondary system would be better synchronized to the primary storage system.

### Increased Interest

What is sparking SME interest in WAN optimization is the need for connectivity within data centers, as well as the cost effectiveness and flexibility of the solutions. Many remote office solutions now provide additional services on physical appliances, thus letting users create remote office servers. “In the past, a remote office had to have multiple servers in place to be able to provide services like local print DNS and DHCP. The ability to consolidate multiple functions like this onto a single remote appliance can significantly reduce the cost of remote office IT,” says Ghory.

Another aspect that makes WAN optimization more attractive to SMEs is the fact solutions are now available as virtual appliances. WAN optimization solutions are now available as virtual appliances. “An important change in WAN optimization that the SME IT manager should be aware of is the move from using physical appliances to virtual appliances,” says Robert MacIntyre, vice president of business development and marketing at NetEx ([www.netex.com](http://www.netex.com)). “Using a virtual appliance . . . drives down physical cost and makes implementation easier since there is nothing to rack or provide network connectivity to since it can leverage the virtual infrastructure that is likely already in place. A virtual appliance is also ideal because it is software, there is no hardware to ship and install in the local or remote locations. A simple download and the appliance is ready at the remote site, as well.”

How effective WAN optimization will be is often an unknown enterprises deal with. IT managers are often left wondering whether investing in WAN optimization is better than investing in more bandwidth. Although a vendor will send you an evaluation unit, you are still responsible for that unit. Virtual appliances provide a risk-free alternative to testing WAN optimization. [E]

## Evaluation Advice

Selecting the right WAN optimization device comes down to understanding what you want to do. “There are solutions that are designed for branch office consolidation and then there are those that are designed for data center-to-data center communication. Make sure you know which problem you are trying to solve,” says Robert MacIntyre, vice president of business development and marketing at NetEx ([www.netex.com](http://www.netex.com)). Data center-to-data center WANs are typically used by storage and application replication products. In these cases, the support for higher-level protocols is not as important and may decrease the efficiency of the WAN optimizer.

MacIntyre also advises that as virtual WAN appliances become more popular, SMEs should pay attention to their virtual footprints—compare how much memory, disk space, and CPU processing power the virtual appliances will require. Also, beware that some vendors put limits on how much data or how fast an appliance can transfer data based upon the virtual appliance version. Certeon ([www.certeon.com](http://www.certeon.com)) CTO Donato Buccella suggests that you also focus on the full load of what you will eventually be replicating. He also advises adding another data set and a remote site to support during an evaluation period.



TECH IN-DEPTH

- Key Points
- Thin provisioning allows IT managers to allocate storage space as it is needed, instead of allocating excess capacity that gets wasted.
  - This technique saves companies money by allowing them to defer hardware purchases to a later date when prices will be lower.
  - Managers who choose to implement thin provisioning should choose their vendor with care and set up alerts to warn when physical disk space is getting low.

# Thin Provisioning

## Just-In-Time Storage Reduces Data Center Costs

BY CYNTHIA HARVEY

*These days, most storage hardware and software vendors advertise “thin provisioning” capabilities. This technique for allocating storage space can help data centers reduce their costs and become more efficient. However, managers who implement thin provisioning should choose their vendors carefully and make sure they have adequate safeguards in place.*

### ■ WHAT IS THIN PROVISIONING?

In traditional (“fat”) provisioning, companies guess how much storage capacity a given application or end user will need in a year and purchase all of that capacity up front. This usually results in enterprises buying much more storage than they need. Experts estimate that midsized to large data centers without thin provisioning in place use only 20 to 30% of their storage capacity. Thin provisioning helps eliminate the wasted space. The process is somewhat analogous to the airline practice of overbooking. Because airlines know that many passengers who buy tickets won’t actually show up for their flights, they sell

more tickets than the number of actual seats available. In a similar way, thin provisioning “soft allocates” more storage space than is actually physically available. To applications and end users, it appears that they have all of the requested storage; however, the storage array doesn’t actually allocate the drive space until it needs to be written.

### ■ LOWER COSTS, HIGHER EFFICIENCY

Thin provisioning saves companies money by deferring storage purchases. Because disk space generally becomes less expensive with time, data centers get more bang for the buck by waiting. According to Augie Gonzalez, director of

product marketing for DataCore Software ([www.datacore.com](http://www.datacore.com)), “This clever, just-enough-space, just-in-time technique saves you from having to buy disks before you really need them.” Lee Johns, director of marketing for unified storage at HP StorageWorks, points out that thin provisioning also helps companies think green by eliminating “the need to buy excess disk capacity up front, which in effect reduces costs associated with powering that disk.” Thin provisioning also helps IT staff become more efficient. Traditionally, staffers allocate (and reallocate) storage manually. With thin provisioning, allocation is handled automatically. “Thin provisioning also enables IT departments to add disk capacity on the fly,” notes Bob Fine, director of product marketing at Compellent ([www.compellent.com](http://www.compellent.com)). “This process, in turn, reduces system downtime and improves efficiency.” ■ **POTENTIAL DANGERS** The airline analogy makes the biggest potential danger in thin provisioning obvious. Just as airlines run into trouble if all of the passengers with tickets actually show up for flights, IT managers run into trouble if everything and everyone with allocated storage space actually need all of that capacity. Fortunately, most thin provisioning solutions have safeguards that are already built in, in the form of alerts. “Managers

should set alert levels that increasingly warn when real space is starting to run out,” Gonzalez recommends. “You’ll need to know early enough so that you can add more disks in time to meet new demands.” ■

### Selecting A Good Solution

Companies can get thin provisioning in one of two ways—built into their storage hardware or as part of a storage management software solution. No matter which you choose, experts say you should select a solution carefully. Bob Fine, director of product marketing for Compellent ([www.compellent.com](http://www.compellent.com)), advises managers to speak with other end users about the experiences they’ve had with thin provisioning from the vendor they work with.

Several experts suggest that companies look for a solution with reclamation capabilities. “The good solutions have a way to take back capacity when the consumer is no longer using it,” says Augie Gonzalez, director of product marketing for DataCore Software ([www.datacore.com](http://www.datacore.com)).

Other things to look for include nondisruptive expansion capabilities, easy integration with other storage solutions, and “reservationless” provisioning.

FEATURED SERVICE

# A Truly Custom Enclosure

## Chenbro’s Custom Solutions Division Handles Everything

by Nathan Lake  
• • •

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# Is Cloud Storage Taking Over Backups?

## Cost Savings Are Attractive, But Consider Security & Usability Before Ditching Onsite Archives

by Julie Knudson

**THE PHRASE “CLOUD COMPUTING”** is taking hold in consumer and enterprise circles alike. Once thought suitable only for long-term storage, cloud technology is slowly gaining favor with data centers looking for alternatives to traditional onsite backups. “The market acceptance of public cloud backup services is clear,” says Ken Dang, product manager at SonicWALL (www.sonicwall.com). “It is much more popular today than a few years ago, when cloud security and compliance was still a concern.”

Many companies test the waters by first moving applications into the cloud. If the experience meets their expectations, they’re increasingly looking for other ways to take advantage of the cloud’s economies of scale and ease of use. “Once these companies gain familiarity and experience with the cloud, they begin to move larger chunks of their infrastructure while developing a 12- to 24-month migration plan,” says Alyssa Henry, general manager of storage services at Amazon Web Services (aws.amazon.com). “Storage and backup is one of the first things many companies decide to move.”

But tossing out your onsite archival hardware may be premature: performance, availability, bandwidth, and quality of service are all factors to consider when evaluating cloud-based backups against your current method. And depending on the type of data you’re archiving, security and compliance might still be sticking points.

### Scalability Saves Hardware Dollars

A major benefit of cloud-based backups is the ability to eliminate many of the hardware costs associated with onsite storage. “Businesses today are facing increased demands to back up more and more data,” Henry says, “but existing storage options are often costly and difficult to operate reliably.” By eliminating much of the hardware needed for onsite backups, companies can significantly reduce their capital expenditures.

Hardware reliance also complicates those occasions when an enterprise needs

more than the typical capacity. Purchasing equipment to support temporary or last-minute storage increases is often prohibitively expensive, but transitioning backup activities to the cloud eliminates concerns about onsite hardware capacity. “What the cloud enables you to do is only pay for usable capacity,” says Steve Zivanic, vice president of marketing at Nirvanix (www.nirvanix.com). “You don’t have to over-buy storage.” The pay-for-what-you-use cloud model offers data centers cost containment and flexibility that’s unavailable in traditional hardware-based archival.

### The Performance Bottleneck

Some enterprises, especially those leveraging robust databases, may be tempted to transition to cloud backups without considering the ways in which frequent access could affect day-to-day system performance and the user experience. If the replication process is tightly integrated with the functioning of your database, then the cloud may not be the best place to store routine backups.

“Once you’ve done a backup on the database, you can move it there for archival storage, but the performance isn’t adequate to be able to actually do that in a dynamic way as databases are executing,” says John Busch, PhD, founder and CTO of Schooner Information Technology (www.schoonerinfotech.com). He says this scenario may limit an enterprise’s ability to successfully move database backup functions to the cloud.

For activities that don’t need dynamic performance, high availability, or frequent access, such as backing up email or simple files, existing cloud technology is likely to fit the bill.

### Risky Data May Not Be Cloud-Ready

When enterprises began the first tentative trials of public cloud technology, security levels often weren’t robust enough to make widespread adoption practical. As a result, many providers have developed more comprehensive processes that are more in line with the needs and expectations of today’s security-conscious data centers. “As cloud security improved with better implementation of encryption technologies, the fear of data breaches gradually became less of an issue,” Dang says.

However, security requirements may not yet allow all organizations to move to the cloud. “There is still the big question regarding compliance data and the changing regulations that mandates the handling of that data,” Dang says. He points to healthcare and financial organizations responsible for highly sensitive client or patient records as examples of industries that are likely to balk at cloud storage solutions. “Cloud-based services are still not a viable option in these instances, despite improvements in encryption implementation,” he says.

Thoroughly researching potential cloud backup providers is critical to a successful transition. “Being able to

### Key Points

- On-demand scalability offers significant hardware cost savings.
- Assess the effects that a move to the cloud could have on your network’s performance (and with it, your uptime and productivity).
- Carefully evaluate your data’s security and compliance requirements before pulling the trigger on cloud-based backups.

understand where your data is going to reside and the levels of security that are present in the data centers that are going to contain your data, I think those are critical,” Zivanic says. Ask potential providers about security processes, physical access procedures, and whether customers are able to inspect and audit the facilities.

### Are Cloud Backups Right For You?

For enterprises wondering if they should look deeper into cloud-based backups, there are some key areas that need to be addressed before a transition can be seriously considered. If minimizing capital costs and internal resources are primary considerations, then leveraging cloud technology for routine backups may be a viable option. “We believe that fewer enterprises will choose to back up their data in-house because the cost savings and reliability of the cloud are very attractive,” Henry says. “When we talk with enterprises, we find that they are really questioning if their current IT infrastructure really differentiates their business.”

Organizations operating under stringent compliance mandates or security requirements may need to dig a little deeper to be comfortable with a move to the cloud. “There are a range of cloud vendors today that are providing extremely attractive commodity pricing,” Busch says, “and for me, it really comes down to making sure that the security mechanisms are acceptable for the enterprise.”

## The Pros & Cons Of Cloud-Based Backups

### Pros

- Easy investment—no hardware or consumable costs required
- Pay-as-you-go models—better cost containment and control
- Scale or terminate on demand—have the right amount of storage available at all times
- Simplicity of use—IT groups can reduce their administration and management time

### Cons

- Higher bandwidth requirements—beware increased operating costs
- Dependence on network availability—compromises mission-critical activities
- Varying security standards—provider’s processes may not meet your needs
- Support may be lacking—look for a provider that offers comprehensive SLAs



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HOW TO

# Reduce Data Backup Loads

## A Backup Diet Plan

by Christian Perry

**ATTEMPTING TO LASSO** the relentless stampede of data in the modern enterprise is a venture fraught with peril for IT managers unprepared for the challenges of storage. Throw backups into the mix, and those same managers might find themselves buried under huge backups that drain resources and budgets. But by reducing the data backup load, it's possible to relieve the pressure and create a sensible backup process that doesn't create big problems for IT and the organization's other employees.

"The reduction of data backup loads benefits several areas of the business, the most significant of which is the reduction in IT administrator support time as data volume is decreased," says Jeff Pederson, operations manager for Kroll Ontrack's ([www.krollontrack.com](http://www.krollontrack.com)) Data Recovery division. "The available backup window is even smaller in the globally connected world of business today, so a reduced backup load not only makes it possible to work within

### Key Points

- Reducing data backup loads can reduce IT workloads, boost flexibility, increase equipment efficiency, and reduce the costs of backup-related equipment and processes.
- Understanding your data environment is a key requirement prior to actually performing the task of reducing data backup loads.
- Technologies such as deduplication and disk-based storage can help to reduce loads, but simply removing the junk from your data can also help.

these windows, but provides flexibility for patches, upgrades, and other maintenance."

The benefits don't end there. In fact, the initial effects of reducing a data backup load can snowball into larger benefits, Pederson adds, including servers and systems that perform at higher levels, which in turn reduce power and cooling costs. These smaller loads also reduce the costs of backup tapes, transportation, offsite storage, and retrieval; result in faster data restore times; and narrow the set of content potentially subject to regulatory investigations and legal discovery, Pederson says.

### Investigate First

When considering the size of backup data loads, remember that storage has an error rate, explains Vincent Berk, CEO of ProQueSys ([www.proquesys.com](http://www.proquesys.com)). Backups aren't immune to errors that can plague storage—in fact, backup media fails at the same rate as the media that holds the original copy of the data, he says, and when using many devices for backup storage, you can increase the opportunity for data loss. Further, big backup loads mean more complex management requirements, but Berk says that a compact set of carefully chosen backups that can easily be restored is more valuable than keeping many copies of the same data.

Instead of taking a slash-and-burn approach to cutting data backup loads, experts recommend a careful approach that keeps several factors in mind. For example, organizations first need to understand what they're trying to accomplish before attempting to implement the technologies and procedures that can help achieve this task, notes Tom McCaffrey, director of archiving at Kroll Ontrack.

"A cross-functional team should be responsible for setting the retention policies for proper data governance to ensure regulatory obligations, legal discovery requirements, and . . . the needs of the business are met. From here, the implementation should first focus on what needs to be kept and for how long. Next, the implementation will address the optimal systems for maintaining data—for example, where should the data reside and when should it move from one system to another," McCaffrey says.

### Tools Of The Trade

Understanding your environment is a key step in the process of reducing data backup

loads (see sidebar for more information), but once you have a handle on that, it's time to investigate technologies that can help further solve the problem of cumbersome loads. According to Mario Blandini, senior director of products and marketing at Drobo ([www.drobo.com](http://www.drobo.com)), technologies such as disk-based backup and deduplication aren't new but can make a difference when used in new backup solutions.

For example, when used as the target for backup data, disk technologies can improve data streaming to the storage location and can improve the speed of backups. And when it comes to truly reducing the loads themselves, deduplication can be a major player in the process when added to disk-based backup. While tape offers data compression, deduplication can improve the overall backup efficiency more than 10 times that of tape, Blandini says.

There are multiple flavors of deduplication that can vary in their ability to reduce the amount of data stored to the equivalent of one copy or less, says Brian Greenberg, president and CEO of General System Dynamics ([www.gsystd.com](http://www.gsystd.com)). For instance, client-based deduplication sends less data over the network; server-based puts the processing load completely on the deduplication engine; inline processing requires higher performance engines and may not be as fast or efficient; and post-processing requires a larger landing site (disk storage) as the data is deduplicated.

Other practices can also help to reduce data loads, Greenberg adds, including de-junking the data. "If you know what your data is and have it properly classified, you can de-junk your data by only backing up

the right data and not junk. This can reduce the amount of data in many organizations by 50% or more," he says.

Greenberg also recommends putting a good reporting system in place that provides a clear window into the storage environment to provide a good perspective on the state of storage efficiency and data management capabilities. His other suggestions include keeping data and OSes separate and preserving only OS images or virtual machines, and don't back up the OS of every machine in the company. Finally, he recommends leveraging snapshots and replication through a multitiered data protection strategy that can reduce the load, capacity, and/or frequency of backups.

### Reduction Costs

Gauging the cost of reducing data backup loads can be a difficult endeavor without knowing the amount of data involved, but McCaffrey from Kroll Ontrack says that with moderate storage requirements, organizations can expect hosted archiving services to range from \$1,000 to \$5,000 per month after setup and legacy ingestion costs (which themselves can range from \$2,000 to \$20,000).

Drobo's Blandini adds that a disk-based backup for a small to midsize enterprise can start around \$2,000 for a DAS solution, while an iSCSI SAN system that supports multiple backup servers can start at \$5,000. Meanwhile, he says that organizations can expect to spend more than \$30,000 on entry-level storage and a deduplication application along with backup software—and even up to six figures for a midrange solution. Smaller shops, he says, can deliver deduplication on a backup media server for less than \$3,000 per server. <sup>P</sup>

## TOP TIPS

The temptation to throw technology at a problem often lurks within an IT department, but that route isn't necessarily smart when it comes to reducing data backup loads. Instead, it's better to first determine whether a problem actually exists or if you need to simply examine the issue from a different angle, says Brian Greenberg, president and CEO of General System Dynamics ([www.gsystd.com](http://www.gsystd.com)). He offers the following tips to achieve this knowledge.

- **Know your data.** Has the data been classified within the business via BIA (business impact analysis)? This will provide a context of requirements on the availability of the data, the RTO (recovery time objective), RPO (recovery period objective), and how the loss of the data's availability will financially affect the business.
- **Know your environment.** Thoroughly understand your backup environment and architecture—this is overlooked more often than you'd imagine.
- **Know your layers.** Understand all the layers of data protection that are at work in your company. They will influence the best methods and architectures that will shape your decision to reduce backup loads (for example, disk-based snapshots and checkpoints, disk-based deduplication on primary storage, replication methods such as BCVs [business continuity volumes], or remote copy, remote site synchronization, different file system types such as object based storage, and centralized or distributed storage architectures).
- **Know your technology.** Understand the industry's technologies, including their benefits, costs, and implications, and speak with people who are currently using the technology in environments that resemble yours.

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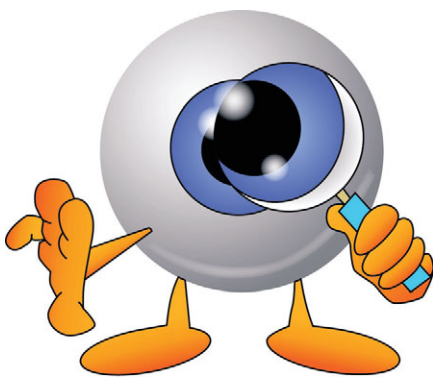
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## Vulnerabilities Disclosed: What You Should Watch Out For

More than 8,500 new vulnerabilities were disclosed in 2010, according to the IBM X-Force 2010 Trend & Risk report. That's a 27% increase from 2009.

The IBM report gathered information about public vulnerability disclosures by monitoring and analyzing the data from more than 150,000 security events per second, per day in 2010. Tom Cross, manager of IBM X-Force Threat Intelligence and Strategy at IBM Security Solutions, says, "These are significant jumps, and they mean that network security professionals have been busier this year keeping track of these bugs and making sure they are patched."



Cybercriminals seem to be evolving past basic spam attacks and moving toward high-profile, targeted attacks. For instance, IBM says, the Stuxnet worm showed IT managers that highly specialized industrial control systems are at risk, even though the attacks required high levels of organization and funding. Computer espionage and sabotage of public and private networks also appear to be on the rise.

"IT security professionals are having to protect new technologies like mobile devices, virtual servers, and cloud-based infrastructure while contending with new threat models such as the kind of sophisticated, targeted attacks that people associate with the term 'advanced persistent threat,'" Cross says.

### Best Practices

Best practices for mobile security include enhanced password management and data encryption capabilities, the IBM report notes. With cloud computing, IBM predicts that customers will drive cloud providers to deliver access to security capabilities and expertise that's better than what customers have in-house—a shift from the traditional idea that cloud computing inhibits security. IBM notes that a decline in phishing attacks, including a 70% decrease in peak volume from the past two years, may mean cybercriminals are looking for more profitable ways to take money.

Overall, the report found that cybercriminals might be starting to focus on quality, rather than quantity. For example, the number of spear phishing attacks, which are well-crafted emails with malicious attachments or links, grew in 2010. And most spear phishing attacks were launched against enterprise networks.

Overall, Cross says, "We need to improve the level of knowledge and control we have over the end points in our networks and the software running on those end points. There is a window of opportunity that attackers have between the time when a security vulnerability is first discovered in a piece of software and the moment it is patched on a vulnerable machine."

by Nathan Lake

# Security Self-Assessment

## Measure The Strengths & Weaknesses Of Your Security Infrastructure

by Bill Hayes

**SECURITY SAQS** (self-assessment questionnaires) can be used to help an SME IT staff assess the strengths and weaknesses of its security infrastructure. Such questionnaires are part of the PCI DSS (Payment Card Industry Data Security Standard) and may be generated by HIPAA (Health Insurance Portability and Accountability Act), HITECH (Health Information Technology for Economic and Clinical Health) Act, and the ISO (International Organization for Standardization) security standards.

### How To Use Security SAQs

"A security self-assessment can be a powerful management tool," says Kevin Stine, an information security specialist at the National Institute of Standards and Technology. Stine says the results of a security self-assessment can enable an organization to gain the current status of its information security program, to determine the effectiveness of the security controls it implements, to support demonstration

are only reviewing the effectiveness according to a regulatory compliance schedule. IT and information security management must regularly assess the state of their controls as part of their primary responsibility."

According to Jon-Louis Heimerl, senior security strategist and product manager at Solutionary ([www.solutionary.com](http://www.solutionary.com)), "Self-assessments, in a great sense, are no different than any other assessments—you get out of them what you put into them. A weakly constructed assessment answered honestly and thoroughly is probably more valuable than a well-constructed assessment that contains off-the-cuff, casual answers with no thought or care," Heimerl notes. "The same is true for follow-up. If security management takes care to genuinely review the details in a self-assessment, the information they gather can be extremely valuable."

Somaini recommends that control assessments should be undertaken at least annually. "We recommend a review quarterly to identify new threats and update the state of control effectiveness,"

“If security management takes care to genuinely review the details in a self-assessment, the information they gather can be extremely valuable.”

- Solutionary's Jon-Louis Heimerl

of compliance with security requirements, and to prepare for formal reviews and evaluations.

According to Bob Russo, general manager of the PCI Security Standards Council, while the SAQs are used for self-assessment for the DSS, they can also be used as a periodic check on current compliance status and any variation, allowing organizations to quickly respond to deficiencies. "SAQs aren't just for attesting compliance," Russo says. "They are a great temperature gauge of an organization's current security posture."

Justin Somaini, vice president and CISO for Yahoo! ([www.yahoo.com](http://www.yahoo.com)), agrees. "Self-assessment is not only a good thing, it is an absolute necessity," he says. "IT and information security managers and leaders cannot delegate responsibility for control assessment to an external auditor. It is also impossible to ensure consistent execution if you

he says. Furthermore, the SAQs should be answered at the lowest level possible by persons with a working knowledge of the subject matter.

### Common Abuses Of SAQs

"Of course, there are folks that simply check all the boxes and call it good," Russo says. "It is an unfortunate reality," Heimerl agrees. "First of all, there is nothing to stop the non-truth," Heimerl says. "I will hesitate to say 'lie' because many self-assessments are probably based in truth but colored by the view of the assessor," he says.

According to Heimerl, in order to be accurate, the self-assessment itself has to be built correctly and for the right purpose. "Your self-assessment has to be based on the results towards which you are working," he says.

Heimerl states there are times that a self-assessment is actually used as

### Key Points

- Information security SAQs (self-assessment questionnaires) are part of an ongoing effort to identify risk and remediate it.
- SAQs should be answered at the lowest level possible by persons with a working knowledge of the subject matter.
- Security SAQs are useless unless the information the completed questionnaires provide is acted upon.

proof of compliance. "This is dangerous for the reasons I mentioned above—that there is normally no validation or proof of compliance. Compliance becomes an unsupported assertion on behalf of the assessor," Heimerl says. "All too often, a self-assessment becomes a way for the assessor to make a point, rather than give an honest answer that accurately reflects the state of security related to a specific control. There is always the danger that the self-assessment is being used as a meaningless check mark," Heimerl says.

"However, we find that most organizations are taking this seriously—looking to identify any deficiencies and changing their process to bring themselves around," Russo says.

Somaini agrees. "The self-assessment process is not useful unless the responses reflect the actual state of controls," he says. "We are seeing a number of our peers changing their perspective on this. The old philosophy that 'if we don't document a risk we don't have to do anything about it' is fading away."

Somaini points to a recent Verizon Data Breach Investigation Report revealing that about 87% of data breaches could have been avoided using best practice IT and information security controls. "The fear of being found grossly negligent in the event of a data breach is pushing aside the fear regarding lack of timely remediation," Somaini says. "A control self-assessment is the first place to start."

### Information SAQs & Risk Management

According to Stine, risk assessment and a security self-assessment are complementary activities. "A risk assessment—typically conducted prior to a self-assessment—helps an organization to identify and prioritize risks," Stine says. "Using the results of the risk assessment, an organization selects and implements security controls to address those risks." A security self-assessment questionnaire is one tool that an organization can use to determine the effectiveness of the security controls implemented to address the identified risks.

Security is everyone's business, Russo says. "Recent research has shown the significant cost of data breaches per record stolen," he says. It's in every organization's best interest to ensure that security plays an everyday role in their daily business practices. ■



# Prevent Common Breach Sources

Policies, Procedures & Training Can All Help

by Jean Thilmany

WHEN EXECUTIVES at Awareness Technologies compiled 2010 industry information on insider data breaches, three big sources topped the list: stolen laptops, use of USB memory sticks, and employee use of Web mail.

All three types of breaches are easily preventable, says Ron Penna, chief strategy officer at Awareness Technologies (www.awaresstechnologies.com).

### Endpoint Solution

“Protecting the network is kind of a quaint idea because so many people are on laptops and mobile devices and network-level solutions don’t allow IT to see what’s happening on those,” Penna says.

He recommends implementing an endpoint solution. Here, the security solution is downloaded to a laptop or mobile device, which allows IT staffers to monitor a user’s activities on that device, including USB and Web mail use.

“If someone is in Japan and downloads information from their personal Gmail to a USB stick, that’s invisible to enterprise security, but an endpoint solution can see that,” Penna says.

As more enterprise employees work remotely, these types of monitoring solutions

used. Most commonly, software is used to overwrite storage devices with obliterating data. “If there’s ever a problem or a question, you’ll need to prove that the information on a computer or a server has been verifiably destroyed,” he says.

Chris Bauer, president of Bauer Ethics Seminars (www.bauerethicsseminars.com), which conducts business ethics training, says you should erase drives even if the enterprise plans to redeploy computers to new parts of the business. Unless a new user needs the former user’s information, wipe it clean, Bauer says.

Don’t forget that memory chips or drives are a part of pretty much everything these days and some are surprisingly large, Bauer says. Office equipment such as copiers and fax machines also have data on them that needs to be protected, and their memories must also be wiped clean before they’re disposed of, Bauer says.

T.J. Bloom, COO of computer support company MDL Technology (www.mdltechnology.com), says enterprises must ensure physical equipment that does stay is kept in a secure place, preferably with two-factor authentication such as a key and a code or biometrics.

Keep equipment or the data center out of high-traffic areas where the equipment could be easily accessed or viewed,

“If someone is in Japan and downloads information from their personal Gmail to a USB stick, that’s invisible to enterprise security, but an endpoint solution can see that.”

- Awareness Technologies’ Ron Penna

will become more important, he predicts. “It’s easier to do security at the network level, but as technology changes—with Web mail and mobile devices—you have to move on from network security,” he says.

### Safe Hardware

“I can’t tell you how common it is to walk through the hallways of a big office building and find PCs just sitting in the hallways waiting to be picked up by the operations people,” says Bob Houghton, CEO of Redemtech (www.redemtech.com).

He cautions IT managers to think not only in terms of security software—whether enterprise or endpoint—but also in terms of managing hardware, including computers, servers, and mobile devices.

Here asset management is key. Managers must have a way to track hardware so they know its location at all times as well as the information it houses. “If you can’t track how many servers you own, you can’t be responsible for data on those servers,” Houghton says.

Managers also need to keep an audit trail of sanitization, Houghton says. This is a record that verifies data has been properly erased from hardware no longer

he adds. Also, enterprises should keep an offsite data center that replicates the main site in case of a major breach.

Access to all secure locations should be restricted to employees who require access to the data and the physical devices, Bloom adds.

### Security Training

Training employees in proper security measures is also essential. Jon Kim, senior

## Social Aspect

Secure information can walk out with a visitor. That’s why it’s essential your organization has a policy in place to vet visitors and callers, says T.J. Bloom, COO of computer support company MDL Technology (www.mdltechnology.com).

“If someone calls in requesting access and claims to be with XYZ company, then take the proper steps to verify the legitimacy of the caller,” he says. Those verification steps should be set out ahead of time and followed in a set manner.

## Key Points

- Have a security policy in place and continue to educate employees on security procedures.
- Keep hardware secure by keeping it in a safe place and ensuring it’s properly wiped clean before being disposed of. Track hardware via an asset management plan.
- Consider software that monitors employee mobile device and Web mail use to ensure they don’t send sensitive information.

security solutions consultant at Force 3 (www.force3.com), says IT managers at small to midsized businesses should first focus their security investments on Web security measures.

Kim cautions organizations to remember that the Web delivers more than an Internet connection, with applications such as customer relationship management moving over the Web to individual browsers. “Hackers may look to target small businesses,” he says.

For that reason, it’s also imperative to ensure users know about and always take adequate security safety measures. Kim recommends clear, concise security policies for users, such as how to best choose and update passwords.

“Don’t make the list too long or it will be too much for people,” Kim says. But do include basics of computer use, Bauer says. The most common breach has perhaps always been—and will perhaps always be—computer monitors left on and exposed so that passersby can read the screen and even look for security information, he says. Users should never leave their screens on and unattended, he adds.

Don’t forget to hold those responsible for data accountable, Bloom says. “If your neck is on the line for something, people will be a lot more likely to keep a closer watch,” he says. “Create job descriptions that outline exactly what that person or department is responsible for, and what the consequences are for a breach.”

Also, semantics can be helpful. IT managers should gather people for a “security refresher,” Kim says, not for “security training.” The difference means employees won’t feel slighted by the advice, he says.

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# Email Security Appliances

Product	<h2>Axway MailGate</h2> 	<h2>Barracuda Spam &amp; Virus Firewall</h2> 	<h2>Fortinet FortiMail-100C</h2> 
Description	<p>Data loss prevention features join inbound and outbound protection in the Axway MailGate enterprise email security solution. MailGate is available as a hardened Linux appliance and can also be deployed in a VMware environment. It supports IPv6 out of the box, and it makes regulatory compliance easier, Axway says.</p> <ul style="list-style-type: none"><li>Antivirus: McAfee or Kaspersky engine-based virus protection with integrated policy controls</li><li>Virus outbreak protection: Zero-hour protection against new virus outbreaks with quarantining and notification options</li><li>Automatic updates with zero downtime</li><li>Integrated reporting and alert framework</li><li>Allows for policy-based disposition</li></ul> <p><b>Best For:</b> Enterprises looking for a comprehensive data loss prevention strategy combined with email security.</p> <p><b>Price:</b> \$5,300</p>	<p>The versatile, do-it-all Spam &amp; Virus Firewall appliance from Barracuda Networks uses a multilayer approach to content filtering, with three layers dedicated to virus blocking alone. The Spam &amp; Virus Firewall alleviates strain on the network and mail servers by winnowing out unwanted content ahead of time and performs full email scanning for both inbound and outbound email traffic.</p> <ul style="list-style-type: none"><li>Supports up to 100,000 users with per-user customer filtering policies</li><li>Available in eight models and as a virtual appliance</li><li>Speeds up recipient verification in Exchange and Domino environments</li><li>Protects against phishing and DoS attacks</li><li>Updates are provided by Barracuda Central, a 24/7 security operations center that continuously monitors and blocks the latest Web-based threats</li></ul> <p><b>Best For:</b> Enterprises, midmarket organizations, and service providers.</p> <p><b>Price:</b> \$699</p>	<p>The budget-friendly Fortinet FortiMail-100C email security appliance bears the brunt of spam and malware gatekeeping, freeing your small network from the burden of unwanted traffic. It can be deployed in a transparent mode or as a gateway or server. Automatic spam and virus updates, QoS, virtualization, and inbound/outbound SMTP routing combine to make one compelling package in this price range.</p> <ul style="list-style-type: none"><li>Processes up to 77,000 emails per hour with FortiGuard Antispam and Antivirus</li><li>1TB of archival and quarantine storage</li><li>Basic-mode GUI and wizard-based setup facilitate ease of use</li><li>Licensed by device; no per-user pricing</li><li>High availability options available</li></ul> <p><b>Best For:</b> SME, SOHO, and remote/branch office.</p> <p><b>Price:</b> \$1,495</p>

Product	<h2>SonicWALL ESA 3300</h2> 	<h2>Sophos Email Security &amp; Data Protection ES1100</h2> 	<h2>Sophos Email Security &amp; Data Protection ES8000</h2> 
Description	<p>SonicWALL says that its ESA 3300 email security appliance delivers performance and scalability that is powerful yet easy to manage for a company of any size. The ESA 3300 integrates SonicWALL's GRID (Global Response Intelligent Defense) Network, SonicWALL Threat Center, and SonicWALL Labs to apply continuous updates on worldwide threats over multiple vectors. SonicWALL's GRID Network includes millions of SonicWALL antispam and email security sensors deployed at sites worldwide. This integrated approach uses customer ratings of email, predictive behavioral analysis, and innovative malware identification signatures. In doing so, SonicWALL says, the ESA 3300 supplies proactive, near real-time, self-correcting defenses that block both malware and their carrier channels in advance of many malicious cyber attacks.</p> <ul style="list-style-type: none"><li>Advanced reputation management</li><li>Effective spam-blocking techniques</li><li>Patented phishing detection technology</li><li>Five-step quick configuration takes a mere 10 minutes</li><li>Compatible with all email servers</li><li>SonicWALL GRID Network Anti-Virus</li></ul> <p><b>Best For:</b> Organizations in need of superior inbound and outbound email security.</p>	<p>Dual-core processing power helps the ES1100 handle up to 200,000 email messages per hour. Fortified with DLP, message forensics, and anti-malware defenses, the managed ES1100 is much more than a spam blocker. It boasts active and passive two-unit failover capability along with Sophos' remote monitoring and round-the-clock support.</p> <ul style="list-style-type: none"><li>Supports user block lists and personal quarantines</li><li>Browser-based three-clicks-to-anywhere console allows management of up to 10 appliances simultaneously</li><li>Automatic, no-cost upgrades</li><li>Three-year advance replacement hardware warranty</li></ul> <p><b>Best For:</b> Small to medium-sized organizations looking for an integrated solution combining spam and malware protection with DLP and email encryption.</p> <p><b>Price:</b> Starts at \$3,295</p>	<p>The flagship ES8000 email security appliance from Sophos packs powerful features into a 1U rackmount chassis. A managed, remotely monitored appliance based on a hardened installation of FreeBSD, the ES8000 can be clustered for multisite or scaled use. Its Sender Genotype technology blocks most spam at the gateway, while its Behavioral Genotype feature guards against malware, phishing attempts, and other threats.</p> <ul style="list-style-type: none"><li>Data loss prevention technology and optional SPX encryption protect sensitive data</li><li>Processes up to 550,000 messages per hour</li><li>Redundant power supplies</li><li>Mirrored 300GB SAS hard drives</li><li>Quad-core processor</li></ul> <p><b>Best For:</b> Large organizations in need of a managed security appliance.</p> <p><b>Price:</b> Starts at \$13,995</p>



Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Marty Sems

## Fortinet FortiMail-3000C



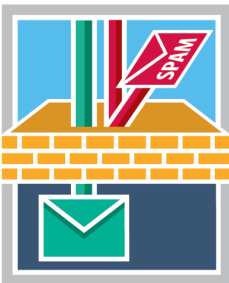
Twin Intel Xeon E5504 processors and 16GB of RAM make the Fortinet FortiMail-3000C one serious security platform. The new FortiMail-3000C works as a comprehensive SMTP mail server supporting POP3, IMAP, and even Web mail clients thanks to its new FortiMail 4.0 MR2 OS. Fortinet says the product is ideal for SaaS and application service providers with PCI DSS or HIPAA regulation compliance obligations. There's DLP, anti-spam, antivirus, and antispyware onboard, along with identity-based encryption for both push and pull delivery.

- Can sort 1.2 million emails per hour with FortiGuard Antispam and Antivirus
- 2TB of built-in RAID 1/5/10/50 storage; upgradable to 6TB
- Supports up to 50,000 users and 5,000 domains
- Dual Gigabit fiber (SFP) interfaces and four Gigabit copper ports

**Best For:** Medium-sized to large enterprises, carriers, and service providers.

**Price:** \$29,995

## SonicWALL Comprehensive Anti-Spam Service



The SonicWALL CASS (Comprehensive Anti-Spam Service) can be deployed over existing SonicWALL TZ, NSA, and NSA E-Class appliances running Sonic-OS 5.6.3 or later. It protects SMEs with inbound anti-spam, anti-phishing, and anti-malware technology, plus advanced sender IP reputation analysis, cloud-based content management, denial of service prevention, full quarantine, and customizable junk summaries by user. CASS outperforms RBL filtering, the company says, offering 98% effectiveness against spam. After blocking 80% of junk email at the gateway, the service then applies Adversarial Bayesian filtering on the remaining messages.

- Easy activation and configuration
- No MX record redirection necessary
- Features GRID Anti-Virus
- Interoperable with other email security systems
- Varied options for the routing of junk messages

**Best For:** Small to medium-sized businesses looking for email security that's easy to deploy and administer.

## Vircom m150



The Vircom m150 antivirus and antispam device can extend its coverage to up to 2,500 users and unlimited domains. It is capable of working with network loads of up to 5 million messages on a given day. The m150 is powered by Windows 2003 Server with SQL Server 2005 Express, along with modusGate antivirus software. It's optimized for connectivity with Exchange Server 2003/2007/2010.

- Sequential Content Analyzer predictive technology stops zero-day attacks
- Intel Core 2 Duo processor
- RAID 1 storage drive mirroring
- Optional dual antivirus add-on
- Add-on option provides DLP and policy management

**Best For:** Midsized businesses, small to medium-sized ISPs, hosting and mail service providers.

**Price:** Starts at \$5,045, including Windows Server license and 50-user Vircom modusGate software license.

## Vircom mBlade



Big organizations have big needs when it comes to anti-malware protection. The Vircom mBlade provides both speed and capacity in this role, along with inbound and outbound email scanning, spam filtering, and power redundancy. The mBlade can handle up to 15,000 user mailboxes and any number of email domains. It's a turnkey system for high-volume, heavy security environments.

- Throughput of up to 17 million messages per day
- modusGate antivirus protection onboard
- Four Gigabit Ethernet ports
- Dual Intel Xeon 5130 dual-core processors
- RAID 5 data protection with 15,000rpm hard drive performance

**Best For:** Corporations, large enterprises, carriers, ISPs, hosting and mail service providers, and large universities.

**Price:** Starts at \$22,950, including Windows Server license and 50-user Vircom modusGate software license

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## Watson Will Benefit Healthcare, Financial & Other Industries

News of Watson, IBM’s supercomputer, claiming victory in challenge after challenge of the popular game show “Jeopardy!” has spread to all corners of the technological realm. But outsmarting even the most heralded “Jeopardy!” champions is only the beginning for Watson, IBM says.

Watson is designed to provide answers to questions that are presented in everyday human language. The goal, says Thomas Rosamilia, general manager of Power and z Systems for IBM’s Systems & Technology Group, is for Watson to “communicate and collaborate on human terms using natural language.”

Natural language, Rosamilia explains, is “real language” that’s not specifically designed and encoded for computers, but the language that humans use instinctively to communicate. “Natural language is how humans actually use words. It contains puns, slang, jargon, acronyms, and even words used in the wrong context,” he says.

Traditionally, computers have had difficulty processing natural language because it is “implicit, highly contextual, ambiguous, and often imprecise,” Rosamilia says. But Watson is different. “Watson has the ability to analyze the meaning and context of human language and rapidly process information to find precise answers to questions posed in natural language,” he says. “It delivers information efficiently and in our terms, finding the critical knowledge buried in the huge volumes of natural language content people face every day. Watson uses breakthrough unstructured text analytics to understand what is being asked, analyze millions of pieces of information, and provide the best answer based on the evidence it finds.”

### Applications For The Future

Rosamilia says that the technology powering Watson will benefit countless industries, starting with health care. “What doctors need is an assistant who can quickly read and understand massive amounts of information and then provide useful suggestions,” he says. “Watson’s ability to deal with natural language . . . holds enormous potential to transform healthcare effectiveness, efficiency, and patient outcomes.”



Watson can also shine in the financial services industry by providing real-time visibility about market and economic data and patterns, Rosamilia says.

IBM foresees Watson continually learning, perhaps leading to “systems that will be able to learn autonomously across arbitrary domains,” Rosamilia says. “These systems could potentially impact virtually every sector of the economy, enabling endless applications and services that will range from preventing fraud and providing better security in a more complex world, to improving sales and helping launch entirely new kinds of products.”

by Kris Glaser Brambila

# COBOL: Alive & Well?

## How COBOL Maintains Its Prominence

by William Van Winkle

**JUST AS THE BRITISH EMPIRE** spread English around the world during the exploration and colonial periods, companies like IBM and Sperry Rand spread COBOL throughout the business world. Even today, according to software developer Micro Focus, around 5 billion new lines of COBOL code get added to live systems each year. Seventy-five percent of the world’s business data (90% specifically in the financial space) are processed in COBOL. Still, the question is unavoidable: Does the COBOL dinosaur continue to rule because it still has strong teeth or only because of its massive inertia?

### Why Is COBOL Popular?

“Globally, there are over 200 billion lines of COBOL in operation and the language supports over 30 billion transactions per day,” says Mark Warren, product management director at Micro Focus ([www.microfocus.com](http://www.microfocus.com)). “In fact, about 70% of

it works, it allows you to make subtle enhancements to systems to provide benefits, and it doesn’t shock the user community into learning something new. ‘New’ always introduces the risk of not receiving the perceived value.”

### COBOL On The Move

The COBOL language may have stayed the same, but computing hardware and common OS platforms have not. Fortunately, COBOL was built to be platform-agnostic, even back to its 1950s roots. As such, companies are free to take their COBOL apps off of aging mainframes and transition into more modern hosts, including cloud-based environments. Phil Murphy, a principal analyst at Forrester, discusses such “lift-and-shift” moves in his August 2010 paper, “zEnterprise Should Change The Role Of The Mainframe In Application Strategy Decisions,” stating that such moves make sense for enterprises with fewer than 200 MIPS to manage in their COBOL workloads.

“Corporations stay with COBOL because it is serving a purpose, it works, it allows you to make subtle enhancements to systems, and it doesn’t shock the user.”

-Winnebago’s Dave Ennen

the world’s enterprises still depend on this so-called ‘archaic’ language to run their business. COBOL has unique strengths, including high-performance batch handling of large data and built-in support for fixed-point decimal calculations as used in financial systems.”

COBOL doesn’t only pertain to the large, relatively ancient enterprises. For proof, look no further than Winnebago Industries, the RV manufacturer. Headquartered in Iowa with 1,950 employees, Winnebago has mainframes running more than 1,700 programs. According to Senior Programmer Analyst Pat Hansen, some of these COBOL apps date back to the 1970s while new COBOL programs are still being written and deployed today. Hansen notes that while most new programs are being written in NATURAL, the programming language from Software AG, enhancements to legacy apps are mostly written in COBOL.

According to Dave Ennen, Winnebago’s director of MIS, COBOL gained a new lease on life when it survived the Y2K crisis and proved that it still had a valuable role to play in the modern computing world. It also demonstrated that there was a lot to be said for owning your own code. Companies that ran COBOL weren’t stuck waiting for software vendors to push out patches. Rather, internal or contracted programmers could open up the COBOL code and take remediation into their own hands. In general, code tweaking beats enterprise platform replacement on time, expense, and worker disruption every time.

“It all comes back to common sense and making the right decision for your business,” says Ennen. “Corporations stay with COBOL because it is serving a purpose,

“Firms with COBOL applications on small mainframes may investigate whether moving to a smaller platform would save them money,” notes Murphy. “In a lift-and-shift migration, the COBOL source code is moved off the host and recompiled to run in a Windows or Unix environment using an assortment of third-party compilers, runtime software, and scripts that create COBOL object modules, replace CICS functionality, and emulate batch job streams. Above a few hundred MIPS . . . application workload characteristics begin to influence whether a lift-and-shift migration makes sense.”

A handful of companies continue to innovate around the language, devising ways to keep COBOL pertinent and compatible with new platforms ranging from Linux to Java Virtual Machine to Windows Azure. This blending of old and new worlds, so to speak, can sometimes offer enterprises a technology bridge and a time window in which systems can be gradually migrated so as to lessen internal disruption.

“There is plenty of room for COBOL in the present and future, as it will always remain a cornerstone of the enterprise,” says Micro Focus’s Warren. However, “always” is a very long time.

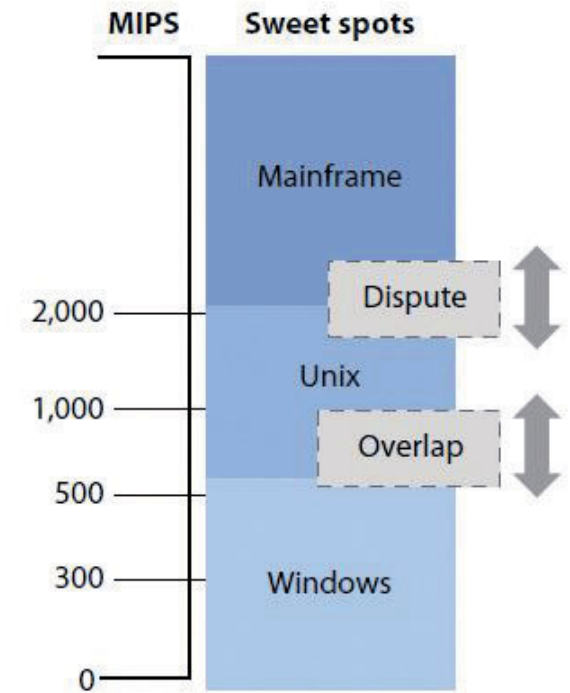
### Key Points

- While most COBOL programs have been running in companies for decades, the language is still being maintained, and enterprises can create new COBOL apps internally as needed.
- COBOL apps can be adapted to run on many current platforms, both on-premises and cloud-based, giving businesses flexibility to migrate to more cost-effective architectures without risking stability.
- Some enterprises will benefit by continuing their COBOL investment for many years to come.

### All Good Things Must End?

Randy Hearn, senior research analyst at Info-Tech Research Group, spotlights the key problem with COBOL: It’s not adding much new functionality. On one hand, this reduces the number of potential issues that arise, and IT obviously appreciates that. It also means that few support staff will be needed for COBOL applications. Winnebago’s Ennen notes, “The mainframe and its operating systems that COBOL runs on are the most dependable by far. We recently went an entire year with one unscheduled outage totaling six minutes of downtime. The open systems environment is improving, but it’s a more complex environment with more business partners involved, which leads to greater instability.”

On the other hand, businesses need to grow, and that often means adopting new, competitive capabilities. Also, the benefit of smaller support staff can be counterbalanced by the fact that COBOL programmers generally command higher salaries thanks to supply and demand. Ultimately, according to Info-Tech’s Hearn, fewer young programmers are learning COBOL when there’s the temptation of “way cooler” programming options, such as .NET.



SOURCE: FORRESTER RESEARCH, INC. AUGUST, 2010

According to Forrester Principal Analyst Phil Murphy, size does matter when it comes to MIPS and host platform. Today, a Windows platform is likely the most cost-effective means for supporting legacy COBOL apps.



CASE STUDY

# Hosting With Horsepower

INetU Provides BMW With Effective Hosted Services & Efficient Customer Service

by Robyn Weisman

• • •

**DAVID CHEK, LEARNING SYSTEMS** technology manager at BMW of North America, or BMWNA, is in charge of maintaining and enhancing a Web-based training system used by the auto manufacturer’s dealer body, and the company’s previous big-name hosting solution was becoming untenable as an option. Said hosting provider’s hardware had been in place since before Chek started in his position back in 2003, and the provider not only hadn’t made any motions to upgrade its solution by consolidating servers and leveraging newer technologies, its customer service and tech support was inattentive at best.

“We needed a technology upgrade, and to nobody’s surprise, we were interested in seeing if, as part of this, we might be able to get a better price on our hosting costs,” Chek says.

So Chek sent out RFPs to a number of competing vendors, looking for the best combination of price and service to host BMWNA’s application. After narrowing the choices to two finalists, BMWNA chose Allentown, Pa.,-based hosting company INetU ([www.inetu.net](http://www.inetu.net)). “[INetU] is a great team to work with, and in the context of this business relationship, they have had our best interests at heart,” Chek says.

### Outstanding Responsiveness

Chek says that prospective vendors going into the RFP process knew only that BMWNA’s old hosting provider was a large company that failed to give BMWNA what it needed. Chek made sure to invite several medium-sized companies to bid, sensing that they would be less likely to cause a bureaucratic morass.

INetU impressed Chek by displaying outstanding communication and responsiveness throughout the RFP process. “They were easy to deal with in terms of resolving questions and scheduling. They always had the right people that could get on the phone with you and answer questions quickly,” Chek says. “While some of the other vendors would say, ‘We can schedule a call in two weeks,’ INetU’s operations were not only totally streamlined, they were just a pleasure to deal with.”

### Proactive Hosting Providers

An outstanding sales presentation during the RFP process doesn’t always translate into great service once contracts have been signed, but, according to Chek, INetU has over-delivered since BMWNA switched to its service.

“If we have a question or issue, we make a phone call, the phone call is answered by an engineer, and our problem is resolved typically within five to 10 minutes,” Chek says. “I’ve had discussions with engineers at 4 a.m. going over some things, which was not our experience with our previous vendor at all.”

Moreover, INetU has both improved and hardened BMWNA’s system configurations without any prompting on

BMWNA’s part. Chek explains that several months ago, the lead engineer assigned to the BMWNA account contacted him. “He told me they had noticed a problem on a virtual server in their own internal system, and the reason they called was

because we had a similar configuration, and even though they hadn’t seen this issue on our servers, [INetU] would open a ticket and see whether we were vulnerable, as well,” Chek says.

INetU found the same vulnerability in BMWNA’s servers and corrected it, Chek continues, even though BMWNA hadn’t yet evidenced a problem. “That kind of proactivity is priceless,” he says. “To have a company head off a potential problem down the road [is] unprecedented at least in my experience with hosting, and that’s just one example of the kind of things [INetU] has done for us.”

### No Stress On The System

Before implementing INetU’s solution, Chek’s team and INetU spent about six weeks performing a series of stress tests to make sure the hosting provider could handle BMWNA’s needs. “As part of the hosting contract and one of the pieces we specified in the RFP, we had INetU include a couple of rounds of stress testing, and they in turn subbed that testing out to a specialized Web-based stress testing vendor,” Chek explains. “They didn’t throw the business over the wall. Instead, they managed it and helped us formulate how we were going to do this and then work out the mechanics with this [stress testing] subcontractor.”

One of the tests involved maximum application loads, where INetU showed BMWNA the number of people who could be logged into BMWNA’s training system before it began to show signs of strain. Another test demonstrated the number of simultaneous video streams BMWNA could put through INetU’s service before it showed signs of breaking down.

### Smooth Implementation

The actual migration and implementation process was a smooth one for BMWNA because the company already had such a strong relationship with INetU. According to Chek, INetU was responsible for setting up and provisioning the hardware, the operating system, and the core software, while Chek’s internal team deployed and tested the training system application.

The entire process took about three months, although Chek says that a majority of that time was spent tweaking the

application to work on INetU’s platform. “The whole thing was managed,” he says. “We were having status calls with INetU every other day throughout the process, and they were always available.”

For example, Chek points out that his group ran into some setup issues, which were due to moving to a newer operating system platform that included virtualization. But INetU engineers brought their expertise to this and other issues and helped Chek’s group think through and then fix those problems. “They would figure out, ‘OK, maybe you need to set up the OS this way or tweak this setting so that this function of our application would work and then deploy the appropriate engineering support, as needed, to get it done,” he says.

According to Chek, INetU’s service performs as he had expected, which he is obviously pleased about, but he is still marveling at the quality of INetU’s service delivery and support. “Every week something new comes up, and I say to myself,

‘Boy, we sure made the right choice here.’ Because what happens after you sign the contract is what really tells the tale, and these guys have over-delivered since we signed the contract, so as you can tell, I’m a huge fan,” Chek says. ■

### INetU Hosting Services

Custom dedicated and managed hosting solutions that provide users with responsiveness, reliability, scalability, compliance, and cost savings so that organizations can better focus on their core business needs.

“[INetU’s] brand of proactivity is priceless. To have a company head off a potential problem down the road [is] unprecedented at least in my experience with hosting, and that’s just one example of the kind of things [INetU] has done for us,” says David Chek, learning systems technology manager at BMW of North America.

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### FEATURED COMPANY

## Asset Recovery At Its Best

Get The Most From Your Used IT Equipment With World Data Products

by Nathan Lake

• • •

**WORLD DATA PRODUCTS** is a national asset recovery specialist that buys decommissioned hardware, giving SMEs the best return on investment when making way for upgrades. World Data Products can also deliver fully serviceable refurbished hardware that can save enterprises up to 50% or more on items such as servers, networking equipment, and storage hardware.

### Maximize Value

World Data Products’ 40,000-square-foot technical center is equipped to efficiently and expertly handle all of an enterprise’s IT assets. On the sales end, World Data Products offers sophisticated go-to-market

strategies and trained sales professionals that will provide the greatest return for off-lease computer systems and components. The company offers refurbished equipment from many top vendors, including Cisco, HP, IBM, Sun, Juniper, Extreme, F5, Adtran, SonicWALL, and Fortinet. World Data Products performs the inspection, testing, and appraisal of the assets, and the refurbishing or reconfiguration of the hardware improves upon the product’s marketability. The hassle-free monetization services include shipping and storage of the equipment, and clients receive regular reports on the sales’ results.

World Data Products can also help companies lower hardware and maintenance costs through its HLM (Hardware Lifecycle Management) program. Beginning with the planning of the IT infrastructure, the HLM program helps enterprises create an approach that aligns their IT strategies with their business objectives. Then, World Data Products works with the customer to select refurbished and new products that meet its needs, as well as with the deployment, maintenance, and selecting product upgrades. The HLM program can also be used to extend end-of-life products by delivering hard-to-find systems and replacement parts. Trade-ins and buy-back are also welcome options, and World Data Products will buy equipment “as is.”

### WORLD DATA PRODUCTS

(877) 777-5114  
[www.wdpi.com](http://www.wdpi.com)

World Data Products is an IT asset recovery specialist that buys unused or decommissioned hardware, ensuring that its customers get the best return on their IT investments.





■ **VC Funding Continues To See Positive Growth**

The first fiscal quarter of 2011 registered \$7.5 billion in venture capital funding based on 738 deals, according to CB Insights. The total represents a \$1 billion rise in funding from Q4 2010 based on an almost identical number of deals. Overall, the firm says that Q1 2011 is “clearly a quarter driven by mega-financings in both Internet and green tech companies, as well as larger venture capital median deal sizes.” CB Insights says that if the final two quarters of this year reflect similar funding numbers, venture capital deals could approach upward of \$30 billion in investments. State-wise, New York saw 261 tech deals and \$1.6 billion in funds, while Massachusetts had 250 deals and \$1.44 billion in funds; California was responsible for 39% of deals and more than 50% of funding, though its number of deals was down 7% from the previous quarter. Another finding of note is that although deals in the healthcare sector were down 13% year over year, funding in the space grew 11%.

■ **Study Examines Social Media Usage In SMBs**

The SMB Group has released its “2011 Impact of Social Business In Small and Medium Business” study, designed to examine social networking trends in small to midsized businesses in an effort to “help social business solution providers develop marketing, product, and channel strategies to successfully reach, influence, and market to SMBs in this



space.” According to the study, 44% of small companies with up to 99 employees have incorporated social media into their company cultures; for midsized enterprises that employ 100 to 1,000 employees, the number is slightly higher at 52%. Additionally, 25% of small businesses and 22% of midsized organizations that aren’t currently using social media plan to start implementing social sites in the next year. The study also found that SMBs are more inclined to create a budget for social media, even if they don’t have the business tools in place.

■ **Outcome Of Microsoft/i4i Patent Case Could Shape Future Cases**

The Supreme Court is preparing to hear a case concerning a years-long battle between Microsoft and i4i over alleged patent infringement, and the decisions made in the suit could have an effect on patent infringement cases in the future. In 2007, i4i sued Microsoft for allegedly infringing on an XML editor patent owned by i4i; two years later, a Texas District Court ordered Microsoft to remove the affected copies of Word from the retail market or pay the \$290 million judgment. Now, Microsoft has presented new evidence that was not considered by the U.S. Patent & Trademark Office at the time the patent was granted to i4i. This presents an opportunity for the Supreme Court to make changes to the “standard of proof” policy currently existing for patents that states infringers must provide “clear and convincing evidence” that the patent is invalid; if the Supreme Court chooses to change the current policy, it may become easier to invalidate patents, which could change the face of patent infringement cases moving forward.

# Professional Industry Associations

## Much More Than A Membership Fee

by Chris A. MacKinnon

**DOES IT BENEFIT IT** and data center managers to belong to professional associations? The answer is yes if job professionalism, career-building, staying informed about the latest trends and technologies, peer-to-peer networking, and knowledge transferring (to name a few benefits) are important to you. Here are a few associations that are worth their weight in benefits for IT professionals.

### AFCOM

Originally known as the Association for Computer Operations Management, AFCOM ([www.afcom.com](http://www.afcom.com)) is a 30-year-old association for data center and facilities managers. AFCOM provides educational programs and services to IT professionals around the world. AFCOM represents more than 4,000 data centers, with 40 local chapters throughout the United States, Canada, Australia, and Mexico. Jill Yaoz, AFCOM’s CEO, says AFCOM is the world’s largest data center organization. Yaoz says data center and facility managers and IT professionals should join AFCOM for the ability to peer-to-peer network through its conferences and members-only Web site. She notes, “Our organization fosters the kind of unique information exchange critical to solving the problems that data center and facilities managers face in their day-to-day operations.” AFCOM supports its growing membership through its two annual Data Center World conferences and trade shows, its free-to-members research program, online webinars, and more. The cost to become an AFCOM member is \$255 per year for individual memberships, with additional discounts available for site and corporate memberships.

### AITP

Celebrating its 60th anniversary this year, the Association of Information Technology Professionals ([www.aitp.org](http://www.aitp.org)) is a community of knowledge for IT leaders. Jim R. Henry, the association’s president for 2011, says AITP builds an inclusive environment through mentoring, delivering on commitments, working with trust, and enjoying camaraderie. AITP has about 100 chapters nationally, with approximately 215 student chapters, for a total of more than 6,000 members. The cost for professional membership is \$105 per year for the national dues (with chapters), while some regions set their own dues structure in addition to national dues. According to Henry, the strength of AITP is its chapters. He explains, “The ability to network with like-minded professionals allows for knowledge transfer between all levels of IT professionals. We strive to be a vendor-neutral, safe environment. People who work from competing companies can feel safe in sharing information without the threat of their competitor utilizing that information against them.” Henry says many people tell stories about how they came to be active in AITP. “Many share that their roles within a company have changed, and they are not prepared for the new role. By surrounding themselves with IT professionals, they quickly have a network of people they can utilize for feedback and suggestions at their fingertips.” He says it has often been mentioned that AITP allows up-and-coming leaders a place to grow their leadership skills in a safe, non-work-related environment,

while learning from other IT professionals and taking those skills back to their employers.

### The Data Center Professionals Network

The Data Center Professionals Network ([www.datacenterprofessionals.net](http://www.datacenterprofessionals.net)) is a dynamic and unique industry service to connect and inform data center specialists from around the world. The network is independent of solutions suppliers, consultancies, event organizers, recruiters, or data center operators. According to Ken Carroll, founder of The Data Center Professionals Network, “The network does not seek to influence the industry in any way.” Network membership is free to individuals working for active companies in the industry; however, third-party recruiters are not allowed to join (a decision made by the members after a network poll, Carroll says). Carroll says the network is unique because it provides features that help data center professionals with everyday issues, including sharing best practices, finding and recruiting staff, and discovering new solution providers. He says the network is a platform where professionals can contribute and share content such as articles, discussions, educational videos, photos, presentations, news, jobs, and more. He elaborates, “As an industry networking platform, the Data Center Professionals Network includes all the main features associated with other popular platforms such as LinkedIn, Twitter, and Facebook, but all in one place. We also have a standalone business directory that includes business profiles, promotional material, press releases, whitepapers, and product promotions.” According to Carroll, the network was founded by an enterprise data center manager who, frustrated by a lack of a free central networking-based site to share information and find expertise, decided to embark on creating a high-quality, feature-rich place for professionals to connect and collaborate. The network has been going for about two years and is growing on a weekly basis.

The Network Professional Association ([www.npa.org](http://www.npa.org)) is an organization of individuals committed to acting as an advocate for the network computing professional. They operate under a code of ethics and strive to advance as individuals within the IT profession. Mark Smed, spokesperson for the NPA, says the NPA has founded the only international awards for professionalism in network computing and administers the Certified Network Professional program. The NPA is a vendor-neutral organization that self-regulates its activities through a member-elected board of directors. The NPA was established in 1991 and has grown and adapted as an organization mainly through member involvement. Smed says the association’s code of ethics sets it apart from other organizations and helps to actively promote professionalism within the industry and with individual members. He comments, “As the years go by, we will continue to draw members, advance our standards, and actively promote professionalism. We also continue to develop member benefits. Our hope is to be the leading organization for network professionals worldwide. We actively seek to have local chapters who meet regularly, and our members are involved in numerous boards

and advisory committees from around the globe.” The cost for professional members is \$125 per year, \$45 for students, and \$1,000 for executives.

### ISSA

The ISSA (Information Systems Security Association; [www.issa.org](http://www.issa.org)) is an international organization of security professionals who are dedicated to protecting information resources. The association’s main goal is to advocate management practices to ensure the confidentiality, integrity, and availability of information resources. The ISSA offers educational forums, publications, and peer interaction opportunities to its members to further their knowledge, skills, and professional growth. Jason Lawrence, director of communications for the Metro Atlanta chapter of the ISSA, says the association offers many networking and educational opportunities throughout the year. “Members that hold industry certifications can also gain continued professional education credits,” Lawrence says. “From my experience, there are employers that recognize the association and, as such, tend to trust the professional caliber of its members. The ISSA also holds an annual conference that includes various educational tracks and is similar to Black Hat or Defcon (but typically, shorter and less expensive).” Lawrence says some chapters also have local conferences for members, and most conferences have vendor demonstrations and opportunities to meet with security vendors. Other association benefits include professional networking, career advancement, leadership opportunities, and access to relevant information about security technologies and practices. A typical ISSA member is someone representing a broad range of industries and works at any level in the security field. Membership dues are based on a 12-month cycle and are collected as international and chapter dues in one payment. The cost for membership is \$95 for general, \$995 for CISO (chief information security officer) executive, \$140/\$115 for organizational (government and private), and \$30 for students.

## Association Contacts

- AFCOM**  
**URL:** [www.afcom.com](http://www.afcom.com)  
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- ASSOCIATION OF INFORMATION TECHNOLOGY PROFESSIONALS**  
**URL:** [www.aitp.org](http://www.aitp.org)  
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**Email:** [aitp\\_hq@aitp.org](mailto:aitp_hq@aitp.org)  
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- DATA CENTER PROFESSIONALS NETWORK**  
**URL:** [www.datacenterprofessionals.net](http://www.datacenterprofessionals.net)  
**Email:** [networkmanager@datacenterprofessionals.net](mailto:networkmanager@datacenterprofessionals.net)
- INFORMATION SYSTEMS SECURITY ASSOCIATION**  
**URL:** [www.issa.org](http://www.issa.org)  
**Phone:** (866) 349-5818  
**Address:** 9220 SW Barbur Blvd. #119-333  
Portland, Ore. 97219
- NETWORK PROFESSIONAL ASSOCIATION**  
**URL:** [www.npa.org](http://www.npa.org)  
**Phone:** (888) 672-6720  
**Address:** 1401 Hermes Lane  
San Diego, Calif. 92154



SIX QUICK TIPS

# Getting Budget Approvals

Make The Best Case To Get What You Need

by Bruce Gain  
• • •

AN ADEQUATE BUDGET CAN solve a lot of problems when it comes to resources, yet convincing enterprises to turn on the spending tap for million-dollar projects is, of course, much easier said than done. That’s why it’s important to seek approval for your IT budget in the right way. It may turn out that you can get much more money for your IT department’s projects than you thought was possible by just making a better case to the higher-ups when trying to secure a budget.

Itemize What’s At Risk

You present a budget for \$5 million. However, you are asked to make do with 10% less. You are not instructed to cancel specific projects, but are supposed to reduce the overall budget by a certain amount. What do you do? Here is where it is crucial to itemize exactly what will not be covered in the budget if the cut is made and exactly what the consequences will be. Doing so could force the decision maker to realize that the budget reduction is not a good idea.

“With a [detailed line-item budget], it is easier to push that line-item budget back in front of the CFO and say ‘tell me, Mr. CFO, what you would like to cut, and I will tell you what that does to the design of the data center,’” says Steven Harris, director of data center engineering for Forsythe (www.forsythe.com).

Communicate Why Environmental Budgets Are Critical

Getting budget approvals for environmentally friendly infrastructure investments can be difficult. For example, a business leader might have difficulty approving spending millions of dollars for alternative energy sources when sourcing from a traditional power grid would be cheaper.

However, it is necessary to communicate how securing a budget for environmentally friendly technologies can be critical for an enterprise’s brand protection and risk management strategy, says Toni Gibbs, vice president, North America, for Shields Environmental (www.shields-e.us). It is important, for example, to be able to show that not investing in a particular area could

cause problems with regulations or mandates, Gibbs says. “Government legislation and the fines associated with not conforming to existing or pending legislation underscore the necessity of a business strategy emphasizing environmental compliance and awareness,” Gibbs says.

It is also important to show that some of the budget set aside for environmental stewardship can be recouped, Gibbs says. “By utilizing your resale and recycling options, the enterprise is able to turn a cost center into a revenue stream,” Gibbs says. “Equipment currently taking up real estate space can now generate income for the enterprise via resale and, when equipment is not in a condition to resell, recycled properly.”

Converge Now Or Pay Later

The timeworn tendency, whether in IT or anything else, is to patch things up and make them last without buying something new. Someone might put off repairing an attic even though a contractor has offered to do the job and replace the leaks in the roof for less money than doing the jobs separately. Budget managers often apply the same type of thinking to IT spending by rejecting budgets for projects that will be cheaper to complete today but will cost more money to do in the future.

“Organizations often try to save money by postponing upgrades to an older network,” says Josh Whitney, vice president of product management and development for Black Box Network Services (www.blackbox.com). “But an upgraded network can more than pay for itself by supporting services that otherwise would require separate and expensive installation and management.”

Speak Their Language

A CFO or another number-cruncher who can approve IT budgets will likely not be an IT expert. It is thus necessary to articulate the necessities of line items in the budget in layperson terms, says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com). “It is wording the arguments correctly that will help gain approval. [It is important] to talk to the business in terms it understands and not in technical

Best Tip:

## Make The Power Savings Argument

Budgets for data center power efficiency upgrades stand a better chance of approval if you can show how the investment can help the company save money, says Brad Wurtz, president and CEO of Power Assure (www.powerassure.com). “[For example], getting approval for a budget geared towards power efficiency upgrades of existing data centers can save millions of dollars per year in operating expenses while avoiding hundreds of millions in CAPEX outlays to build a new data center,” Wurtz says.

Most Practical Tip:

## Include Contingency Costs In The Budget

A budget that includes accurate and detailed contingency costs for IT construction projects lends credibility to your proposal, says Steven Harris, director of data center engineering for Forsythe (www.forsythe.com). “If a project’s budget is \$20 million, for example, it is critical to add potential costs as a line item for when things go wrong, which could represent 10% to 15% of the budget,” Harris says. “There is no way to realistically do a project without a contingency.” Harris recommends starting with higher contingency costs, which go down progressively as the project nears completion.

jargon,” Longbottom says. “By doing this, they are already more open to listening—and will be blown away that IT finally seems to understand what it is there for.”

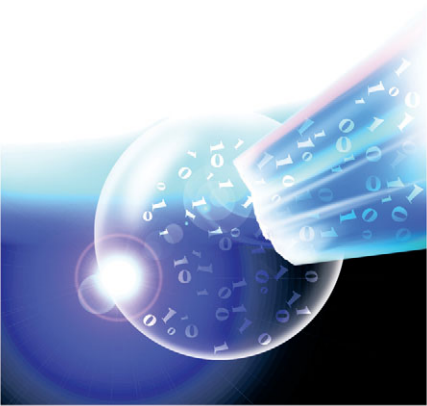
For example, when addressing how a change will affect the business’ costs, look at the business processes involved and detail the impact the technology change will have in plain and simple language, Longbottom says. “Don’t bother about the technology itself by saying things like ‘the increased port density of this switch will reduce the footprint of the box in the data center,’” Longbottom says. “Try something along the lines of ‘implementing this change will enable the existing data center facility to have an extended life, and the business will not be looking at higher energy costs, as the change will improve energy efficiency.’”

It is equally important to communicate in simple terms how budget items will reduce risk, Longbottom says. “Again, something such as ‘the change will enable IT to carry out adds, changes, and deletions without errors’ doesn’t mean much to the business,” Longbottom says. “Saying ‘the change will enable new starters to be productive far faster, with less chance of data leakage, thus enabling better compliance with ISO17799,’ for example, is far better.” ■

## Enterprises Looking To Combat High Costs, Risk Of Data Breaches

About 50% of organizations have experienced a data breach, according to a recent report sponsored by McAfee and SAIC (Science Applications International Corp.). But only 30% of organizations actually report all of the breaches, with 60% choosing which breaches to report and 10% only reporting breaches if they’re legally obligated to do so.

The report, titled “Underground Economies: Intellectual Capital and Sensitive Corporate Data Now the Latest Cybercrime Currency,” is based on survey responses from more than 1,000 IT decision makers in the United States, the UK, Japan, China, India, Brazil, and the Middle East.



Reporting a data breach can potentially affect a company’s reputation and finances, the report says, largely accounting for the lack of disclosures. Media coverage revealing a breach can be presented negatively and damage a company’s name, so many companies choose not to expose themselves. Organizations also realize that publicly disclosing vulnerabilities may make them susceptible to other attacks. In addition, cleaning up after a breach is expensive. According to the report, the average cost of a data breach reached \$1.2 million last year. Only 25% of organizations invested in forensic analysis after a breach, and about 50% halted investigations because of the cost.

Going Overseas

In an attempt to combat the cost of data storage and risk of data compromise, more than half of organizations are considering moving their data to another country. Overseas data storage can be less expensive, and other countries have more lenient laws when it comes to disclosing breach information, the report notes, so there’s less of a liability if a breach happens to occur. According to the report, 80% of companies currently storing data abroad choose the storage location based in part on the country’s privacy laws; 70% of companies select countries with more lenient notification laws.

Which countries are the safest for storing data? The United Kingdom, Germany, and the United States are considered the safest; China, Russia, and Pakistan are perceived to be the least safe.

McAfee and SAIC’s report also touches on what businesses should do to prevent or remediate attacks. Suggestions include assessing risk regularly with the help of auditor recommendations and spending more time determining which assets need the most protection.

by Kris Glaser Brambila

## BONUS TIPS

■ Know the details.

Knowing details about the items and projects involved will go a long way in helping to get your budget approved, especially when it comes to power consumption, according to Brad Wurtz, president and CEO of Power Assure (www.powerassure.com). “If IT admins can answer tough questions about the cost of their applications, servers, and overall

data center as it relates to power consumption, management will take notice,” Wurtz says. “If you propose consolidations, know the anticipated savings from server and storage resources.”

■ Give the bottom line proposition. One of the best ways to convince someone with budget-approval and veto power is to quantify how a budget for

an investment or upgrade will generate value, says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com). “When it comes to value, you’re looking for arguments that show that the change will enable a business to sell more of what it already sells at the same or greater margin or sell something new at a reasonable margin,” he says.



OF SPECIAL INTEREST TO HEALTH DATA CENTERS

### ■ Indian Outsourcing Market Posts Significant Growth

The Indian business process outsourcing, or BPO, market grew 28.6% between 2009 and 2010 to reach \$1.14 billion in revenue last year, according to the latest figures from Gartner. That makes India one of the fastest-growing BPO markets in the Asia/Pacific region. The research firm attributes the growth to increased volume and expanded scopes of existing BPO relationships as well as a number of new deals during 2010 caused by pent-up demand from 2009. Gartner expects the Indian BPO market to reach \$1.4 billion this year and \$2.47 billion by 2014. The BPO market in all of the Asia/Pacific region (excluding Japan) grew 21.5% between 2009 and 2010.

### ■ Study Highlights Security Software Flaws

According to a new report from Veracode, an application testing service, 66% of security applications and 82% of customer-focused applications that were submitted for initial security testing failed due to glaring vulnerabilities. In contrast, just 58% of non-security applications failed Veracode's initial security pass. Web-based apps suffered an 80% initial failure rate. Although the preliminary numbers look bad, Veracode reports that more than 90% of the applications submitted ultimately pass qualification within a month, and security software in particular is fixed within three days on average.

### ■ Seagate To Purchase Samsung's Hard Disk Drive Business

Seagate recently announced that it will buy Samsung's hard disk drive operations for \$1.38 billion. Half of this total will be Seagate shares, which will give Samsung a 9.6% stake in the company. The deal, which is expected to close by the end of this year, is designed to create a partnership between the companies where Seagate provides hard disk drives and Samsung provides other forms of memory for mass storage devices. News of this deal follows closely on the heels of Western Digital purchasing the storage branch of Hitachi.

### ■ Apple Sues Samsung Over Copied Design

Apple filed a lawsuit against Samsung, claiming that the company's Galaxy mobile phones and Galaxy tablet copy Apple's designs from the iPhone and iPad. Apple



claims Samsung duplicated its designs in device appearance, icon appearance, and even packaging of the Android OS-based products. Although the iPad continues to dominate the tablet market, its share dropped to 73% after the introduction of Samsung's Galaxy tablet in Q4 2010, down from the 93% share it held in the previous quarter. Samsung could potentially be charged a one-time penalty or recurring fees paid to Apple if patent or trademark violations are determined to have occurred.

# Meaningful Use Decoder Ring

## Sift Through The Requirements To Learn How They May Affect Your Organization

by Holly Dolezalek

**HEALTH IT IS ABUZZ** with the words “meaningful use” these days, but to many, it’s a nebulous term that’s difficult to define. To help clear up confusion, here is a look at meaningful use, its requirements, and what it means for IT workers in the healthcare industry.

### Meaningful Use, Defined

Meaningful use is a health initiative that came out of the American Reinvestment and Recovery Act of 2009. It’s an attempt to modernize the way healthcare providers share information with each other and the patients they treat. It’s also an attempt to improve healthcare outcomes by improving and expanding that sharing in targeted ways.

From an IT perspective, a lot of the meaningful use criteria, incentives, and penalties are centered on EHR (electronic health record) systems. Generally, the meaningful use standards relate to what an EHR can do and what healthcare providers do with their EHRs.

There are three stages of meaningful use, and the timeline for implementation is as follows: In order to get the incentives for meaningful use, providers or hospitals must have reached Stage 1 by 2011-2012. They must reach Stage 2 by 2013, and if they haven’t reached Stage 3 by 2015, the penalties for noncompliance will begin. The meaningful use standards only apply to providers and hospitals that are treating Medicare and Medicaid patients; any providers or hospitals that do not take these kinds of patients will only have to comply with private insurers’ requirements for EHR use.

### Meaningful Use Stages

So what do the stages require? Stage 1 is the only stage that has been finalized, and that’s where most healthcare professionals are focusing at present. Stages 2 and 3 are still being finalized, although Erica Drazen, managing partner for emerging practices at consultancy and healthcare IT provider CSC ([www.csc.com](http://www.csc.com)), believes that Stage 2’s proposed parameters are relatively certain. “Stage 2 is only proposed at this point, but based on prior experience with Stage 1, it

isn’t likely to be radically different in the final version,” Drazen says.

Stage 1, Drazen explains, involves having an EHR system that is certified to meet all the requirements of meaningful use. “Stage 1 is about having the basic data in electronic form,” she says. “Stage 2 is about expanding the set of information that’s available electronically and starting to engage patients more with their health information, and Stage 3 means demonstrating improvements in healthcare outcomes by using that information.”

According to Michelle Layton, regulatory compliance specialist at CSC, what happens in one stage will often be expanded in the next. “The way that CMS [the Centers for Medicare and Medicaid Services] has structured this is that later stages are extensions of earlier stages,” Layton says. “So in Stage 1, that requirement is 40%; in Stage 2, it’s 50%; and in Stage 3, it’s 80%.”

There are more than 20 of these requirements, and required compliance with them

It’s an attempt to modernize the way healthcare providers share information with each other and the patients they treat.

starts in different stages and at different levels. The full description of each is beyond the scope of this article, but you can expect the following if your company is pursuing the meaningful use incentives.

**Reporting.** Whether you have an EHR system already or are in the process of installing one, your main focus has likely been on getting that EHR up and running and getting the records into the system. But with the advent of meaningful use, the functions for reporting on how that system is used will become more and more important. “Quality reporting is going to be a big challenge,” Drazen says. “Physicians in practice will have to report on six quality measures. There has been voluntary reporting in the past, but this is mandatory, and that means a change in practice that’s pretty dramatic.” It will also likely mean more demands on your staff to help with those reports.

## Meaningful Use Incentives

The incentives for complying with the stages of meaningful use are complex, but here are a few important points:

- Participation for Medicare can begin as early as this year. For Medicaid, it varies by state, but also may begin this year.
- The incentives for Medicare are \$44,000 per eligible professional (mostly doctors) over five years. For Medicaid, it’s \$63,750 over six years.
- To get the incentives, each year, the provider or hospital has to demonstrate meaningful use of a certified system. If you skip a year, you don’t get the incentive money for that year.
- In 2015, for Medicare, independent of when you started, penalties start if you’re not a meaningful user.

### Key Points

- Meaningful use standards apply to healthcare providers and hospitals with Medicare and Medicaid patients.
- The standards govern what an EHR (electronic health record) system at a provider hospital can do and how that provider or hospital is using that EHR.
- The stages go into effect between 2011 and 2015, and incentives are available for providers or hospitals that demonstrate meaningful use of an EHR. Starting in 2015, any non-compliant provider will be penalized.

**Help desk.** This is an area where you are likely to need more resources than ever before. It’s one thing to add a new system for users who are already accustomed to similar systems, but it’s quite another to add one for physicians who have not been working that way at all. “Information technology is not embedded in the way we practice medicine, and we’re on the very early edge of how it impacts the user side,” says Ron Wince, CEO of Guidon Performance Solutions ([www.guidonps.com](http://www.guidonps.com)). “When you bring in something new, there’s a huge volume of calls to the help desk. Plus, if help isn’t readily available to access quickly, [users are] likely to go back and put information in after the fact and you won’t meet some of the requirements of meaningful use.”

Additionally, he says, there are technological challenges even for those populations that are used to technology in practice. The use of tablets and iPhones has been increasing in some healthcare providers, and that may make adoption or further implementation of an EHR system easier. But that doesn’t mean those two systems will play nicely together. “Most tablets in use today are Apple products, but most EHRs aren’t Apple-based,” Wince says. That kind of challenge may also lead to increased help desk calls.

**Privacy and security.** Any certified EHR is going to comply technologically with the meaningful use requirements for privacy and security. But in order for that technology to work, you’ll need to put policies in place to take advantage of it. Drazen explains that most privacy or security breaches take place inside organizations, rather than externally by the efforts of hackers. “It might be malevolent things, like someone who steals patients’ credit card information, or privacy violations like looking up the records for someone famous who comes into the clinic for treatment,” she says. “It’s a balance of technology and policy: The more information is electronic, the more that information is accessible in this way. But if you make it so secure that nobody can get it, it’s useless for providing care.” ■



USED & REFURBISHED EQUIPMENT SPOTLIGHT

# Check Out Used Equipment Before You Buy

A Little Bit Of Detective Work Can Help Ensure Quality

by Julie Knudson  
• • •

**FOR ORGANIZATIONS INTERESTED** in saving money, refurbished equipment offers good quality for a great price. Sometimes, though, customers aren't quite sure what to expect. Are used components banged up and dirty? Will everything work when it arrives? Does their purchase order match what they received? Learn how to become a used-equipment sleuth and avoid problems before you buy.

**Beware the "too good" price.** The old adage certainly applies to refurbished equipment prices: If it seems too good to be true, it probably is. "I find that buyers who are new to purchasing refurbished equipment make that mistake more often than any other, where everyone has quoted \$3,500 but one vendor has the thing for \$1,000," says Benjamin Ingwersen, vice president of Frontier Computer ([www.frontierus.com](http://www.frontierus.com)).

"Chances are there's probably some issue with that one." Instead of reveling in your good luck when you get an unusually low quote, put on your skeptical face and dig a little deeper.

**Pay attention to part numbers.** Savvy buyers check part numbers ahead of time, because you don't want to receive equipment that's close to—but not exactly—what you thought you were getting. "For example, aftermarket memory is often less expensive than memory that has an HP sticker on it," says Morris Scott, president of DMD Systems Recovery ([www.dmdsystems.com](http://www.dmdsystems.com)). "This may not mean that the aftermarket memory is inferior, it may just mean that the customer didn't get what they paid for." Checking that components carry only original part numbers is a good way to know exactly what you're buying.

**Ask for a trial period.** Physically inspecting equipment before you buy it can be

difficult, especially if your vendor isn't local. However, you may be able to swing a brief trial period to confirm that everything is in order. "The customer has the right to request a period of time to test and evaluate equipment and return [it] if necessary," Scott says. Test and inspect the components right away, and contact the vendor if you find any defects.

The payment method you choose could also offer safeguards, such as the dispute resolution available through most credit card companies. "PayPal is also a great one," Ingwersen says. "It makes people feel very comfortable. They can dispute [a purchase] and get their money back." Depending on your company's buying position and relationship with the vendor, you may also be able to get a sample piece

of equipment. This is often a good route for data centers looking for multiple identical components or considering a shift to a new manufacturer or platform.

**Check those references.** To get useful, real-world information about the caliber of equipment typically sold by a potential vendor, get several references and follow up with each. Ingwersen suggests going one step beyond the regular reference check. "Ask them for one good reference and one bad reference," he says. "If they try to tell you they don't have any customers who've been upset with them, they probably haven't been in business long enough." Knowing how a reseller handles unhappy customers is a good indicator of the quality of equipment and service you can expect to receive. **P**

Find Used & Refurbished Equipment For Sale

Once you've made the decision to purchase used or refurbished equipment, finding the equipment you need is easy with Processor's online Data Center Products For Sale Database.

From Processor's home page ([www.processor.com](http://www.processor.com)), you can search for a specific part number, make, model, or description. Enter the information in the appropriate box and click Search. You'll see a list of available equipment. If you don't see the particular piece you're looking for, scroll to the bottom of the search results page to conduct a more detailed search. There, you can search by part number, model, price, location, and more.

Don't know the specific part number or model? Use the drill-down search on the Processor home page to view results from specific manufacturers. Simply click the manufacturer name, and you'll see a list of all equipment listings from that manufacturer.

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# Network With Your Peers At These IT Training & Association Meetings Across The United States

## MAY

### Central Plains ISSA

May 6, 1 p.m.  
Wichita Marriott Restaurant  
9100 E. Corporate Hills Drive  
Wichita, Kan.  
issa-cp.org

### Interop

May 8-12  
Mandalay Bay Convention Center  
Las Vegas, Nev.  
www.interop.com

### Cloud Computing Users Group

May 9, 6 p.m.  
Platform Labs  
1275 Kinnear Road  
Columbus, Ohio  
www.platformlab.org

### Configuring & Troubleshooting A Windows Server 2008 Network Infrastructure

May 9-13, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### Cyber Security Strategies Summit

May 10-12  
Kellogg Conference Center  
Washington, D.C.  
cybersecuritystrategiessummit.com

### Agile Product Leadership Network

May 12, 6 to 8 p.m.  
Max Technical Training  
4900 Parkway Drive, Suite 160  
Mason, Ohio  
www.maxtrain.com//pages.aspx?pagename=ITAssociations

### AITP Research Triangle Park

May 12  
University Club  
4200 Hillsboro St.  
Raleigh, N.C.  
www.rtp-aitp.org

### Cincy SQL

May 12, 6 to 8 p.m.  
Max Technical Training  
4900 Parkway Drive, Suite 160  
Mason, Ohio  
www.maxtrain.com//pages.aspx?pagename=ITAssociations

### Cisco (TSHOOT): Troubleshooting and Maintaining Cisco IP Networks

May 16-20, 9 a.m.  
Online Live  
www.nhnorthflorida.com

### Configuring Windows Server 2008 Active Directory Domain Services

May 16-20, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### Installing & Configuring Windows 7 Client

May 16-20, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### AITP Oklahoma City

May 17  
aitpokc.org

### AITP Southwest Missouri

May 17  
aitpspringfield.org

### PASS Minnesota

May 17  
passmn.org

### AITP Omaha

May 19  
aitpomaha.com  
ISSA Northern Virginia  
May 19, 5:30 p.m.  
issa-nova.org

### CinARC Software Architects

May 19, 6 to 8:30 p.m.  
Max Technical Training  
4900 Parkway Drive, Suite 160  
Mason, Ohio  
www.maxtrain.com//pages.aspx?pagename=ITAssociations

### SIM Minnesota

May 19, 2:30 p.m.  
Northland Inn  
7025 Northland Drive N.  
Minneapolis, Minn.  
www.simnet.org

### Configuring Identity & Access Solutions with Windows Server 2008 Active Directory

May 23, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### VMware vSphere: Install, Configure, Manage v 4.1

May 23, 8 a.m.  
1275 Kinnear Road  
Columbus, Ohio  
www.platformlab.org

### AITP Akron-Windows Phone 7

May 24  
Buffalo Wild Wings  
5050 Eastpointe Drive  
Medina, Ohio  
www.akron-aitp.org/index.htm

### Green Data Center Conference

May 24-26  
Marines' Memorial  
Club & Hotel  
San Francisco, Calif.  
www.greendatacenterconference.com

### AITP St. Louis

May 26, 5:30 p.m.  
Crowne Plaza Clayton  
7750 Carondelet Ave.  
St. Louis, Mo.  
stlouisaip.org

### ISSA Metro Atlanta

May 26, 6:30 p.m.  
SecureWorks  
One Concourse Parkway NE  
5th Floor  
Atlanta, Ga.  
www.gaisa.org

## JUNE

### Cincinnati Programmers Guild

June 2, 6:30 to 8:30 p.m.  
Max Technical Training  
4900 Parkway Drive  
Suite 160  
Mason, Ohio  
www.maxtrain.com//pages.aspx?pagename=ITAssociations

### SharePoint User Group

June 2, 6 to 8 p.m.  
Max Technical Training  
4900 Parkway Drive  
Suite 160  
Mason, Ohio  
www.maxtrain.com//pages.aspx?pagename=ITAssociations

### Central Plains ISSA

June 3, 1 p.m.  
Wichita Marriott Restaurant  
9100 E. Corporate Hills Drive  
Wichita, Kan.  
issa-cp.org

### Fundamentals Of Microsoft Server 2008 Active Directory

June 6-9, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### Agile Product Leadership Network

June 9, 6 to 8 p.m.  
Max Technical Training  
4900 Parkway Drive, Suite 160  
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University Club  
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June 9, 6 to 8 p.m.  
Max Technical Training  
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Suite 160  
Mason, Ohio  
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### 7x24 Exchange Spring Conference

June 12-15  
Hilton Orlando Bonnet Creek  
Orlando, Fla.  
www.7x24exchange.org

### The Business Of Cloud Computing

June 13-15  
Hyatt Regency Mission Bay  
Spa & Marina  
1441 Quivira Road  
San Diego, Calif.  
http://tinyurl.com/CloudComputing613

### Gartner IT Infrastructure, Operations, and Management Summit

June 13-15  
The Peabody Orlando  
9801 International Drive  
Orlando, Fla.  
www.gartner.com/technology/summits/na/it-operations/

### Implementing & Managing Windows Server 2008 Hyper-V

June 13-16, 6 p.m.  
Online Live  
www.nhnorthflorida.com

### AFCOM Central Texas

June 16, 11:30 a.m. to 1:30 p.m.  
Marie Callender's Restaurant  
9503 Research Blvd.  
Austin, Texas  
www.afcom.com/afcomnew/CentralTexas.HTML

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Do you have an event you'd like to see listed?  
Send an email to [feedback@processor.com](mailto:feedback@processor.com).



# Green IT, Interrupted: Recession Slows Adoption Of Green Tech

BY ROD SCHER

A **TIGHT ECONOMY** affects us in a lot of ways: less travel, fewer new cars, less discretionary income in general. But it also tends to put the brakes on IT spending aimed at improving data center efficiency. At the same time, when the cost of energy drops, which it did for a while, green tech takes a hit because reducing energy costs is suddenly not as important as it had been.

In other words, organizational focus on green tech is erratic, rising and falling in response to outside influences. The most recent example of this is the scaling back of green tech projects (and the corresponding decrease of general organizational commitment to the environment) noted by Info-Tech lead analyst Darin Stahl.

“It doesn’t take much to see what will happen with prices—they’ll rise and fall in response to a number of variables,” Stahl says. “And for a small business, even minor variances will have a huge impact on the energy bill. Even a 12-cent jump in costs means that a larger data center’s energy bill can jump from \$89K to \$108K.”

### Short-Term, Shortsighted

Following the bouncing energy ball is a short-sighted strategy, Stahl says. “The problem with energy is that it’s not infinite. We’re not building more power plants. So, energy prices will rise overall,” he says. “Going green is a way to get out in front of it.”

Instead, it’s smarter to take a broader, longer-term look at energy expenditures and to build that approach into every aspect of the business, allowing those long-term strategies to act as buffers against the price volatility that we know will occur.

“With companies that take a more holistic approach, we’re seeing that those businesses are reporting much more success, in terms of greater efficiency and lower overall costs,” Stahl explains. “They’re also seeing higher stakeholder satisfaction, both internally and externally.”

### Baselines Are The Key

Baselines matter, and they may begin to matter even more as governments start to mandate specific reductions in carbon footprint. Understanding where you are now is the only way to measure your future green tech performance.

But not every company has done its homework. Stahl notes a UK company that did a fair amount of work early on, gathering all of the low-hanging green

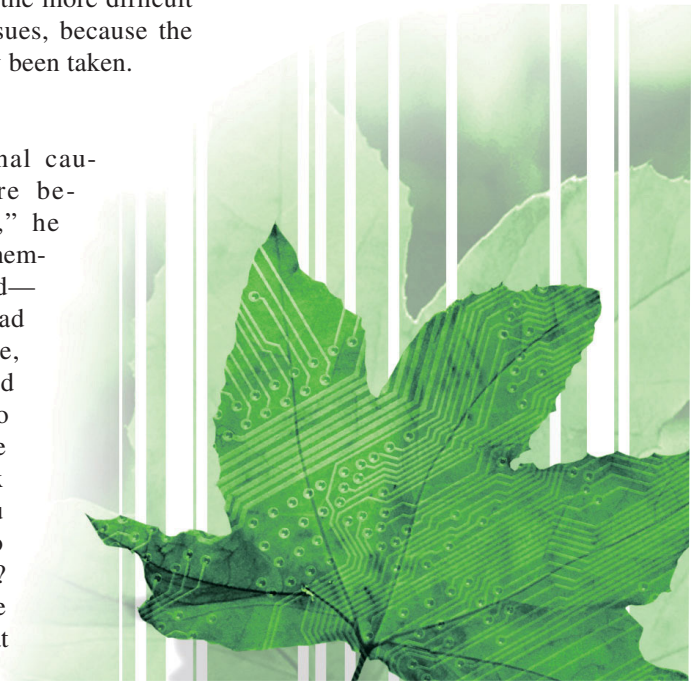
tech fruit, so to speak. The company’s efforts resulted in a marked reduction in energy use. Then the UK government mandated specific reductions over a specific timeframe; because there were no baseline performances to compare to, the company was unable to point to the improvements it had already achieved as a result of its previous work. That meant that the company had to start from scratch. Not only that, it had to start from scratch by dealing with the more difficult energy consumption issues, because the simple steps had already been taken.

### Over-Clubbing

Stahl offers one final caution: “Enterprises are beginning to right-size,” he says. “They’re asking themselves—as they should—just how much overhead do UPSes, for example, add? Do we really need to plug everything into a UPS? What’s the business need? A fax server? Really? Do you need a fax server? Do you need it 24/7/365? And does it need to be plugged into a UPS that whole time?”

Stahl uses a golfing metaphor to describe the overuse of energy-consuming technologies: “Companies are over-clubbing for the hole. How much availability is really needed? What’s the grief index—that is, how much trouble does it cause, and what does it really cost?”

The goal, says Stahl, should be to right-size the load and align energy expenditures with business needs. ■



## Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry.

Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

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PHYSICAL INFRASTRUCTURE



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PHYSICAL INFRASTRUCTURE



Temperature@lert is a leading provider of low-cost, high-performance temperature monitoring products designed to provide early warning of temperature changes before it's too late. The company's goal is to deliver products that can eliminate your worries about system malfunctions or product damage due to temperatures. The Boston, Mass.,-based company has sold more than 10,000 products to customers in 40 countries.

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